

Service Manual

General Description

Adjustment Procedures

Block / Schematic Diagrams

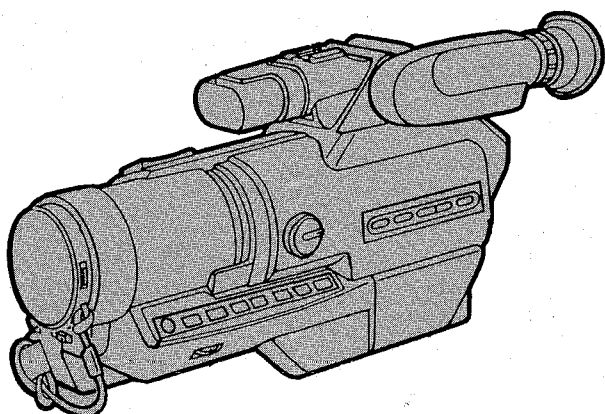
Exploded Views / Parts List

Panasonic **S VHS** VHS
PAL
625

Hi-Fi HQ

S-VHS-C Movie

NV-MS95E/B/A
NV-MS950EN



SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 6.0V Consumption; Recording mode; 10.0W (Battery operation)	VIDEO	HEADS: 4 rotary heads, 1 flying erase head OUTPUT: PHONO CONNECTOR; 1.0Vp-p 75Ω unbalanced S-Video out terminal 1.0Vp-p 75Ω unbalanced
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL	AUDIO	HEAD: 1 Stationary head (Normal Audio) INPUT: MIC IN (M3); -70dB, 4.7kΩ unbalanced OUTPUT: PHONO CONNECTOR; -8dB 600Ω unbalanced
FM AUDIO RECORDING SYSTEM	4 rotary heads, helical scanning system	WEIGHT	Approx. 1.2kg (without Battery Pack)
TAPE FORMAT	S-VHS-C, VHS-C Cassette Tape (Tape width 12.7mm)	DIMENSIONS	140(W) × 154(H) × 341(D)mm
TAPE SPEED	SP mode: 23.39mm/s LP mode: 11.7mm/s Record/Playback Time SP mode: 45 min. with NV-SEC45E LP mode: 90 min. with NV-SEC45E FF/REW Time Approx. 4.5 min. with NV-SEC45E	STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. Cassette Adaptor 1 pc. Audio/Video Cable 1 pc. Battery for Clock Operation 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. S-Video Cord
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)		
	STANDARD ILLUMINATION: 1,400 lux		
	MINIMUM REQUIRED ILLUMINATION: 4 lux		
	LENS: Built-in 10 : 1 Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.6 (8~80mm), Filter Diameter 49mm		
	IMAGE SENSOR: 1/2 inch CCD Image Sensor		
	VIEW FINDER: 2/3" Electric View Finder		

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

07270442
SM-NVMS95E
SVC MNL

00211998

02
1 ST

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.

Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.

Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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Technical Information

Service caution

1. Adjustment the Camera Section.

In the camera section EEPROM(Electric Programmable Read Only Memory) is adopted as adjustment element instead of conventional variable resistor. EEPROM memorize the adjustment value as digital data and data to D/A (Digital to Analogue) converter to be changed DC voltage which is supplied to adjustment point as shown in Fig.T1. Thus, when adjusting the camera process it is

necessary to change the adjustment data which is stored in EEPROM. For this purpose, EVR(Electric Variable Resistor) Fixture enables to communicate with EEPROM, D/A converter directly and can change its stored adjustment data.

The EVR Fixture is connect with camera as shown below and is used. (For more details, Please refer to Camera adjustment section.)

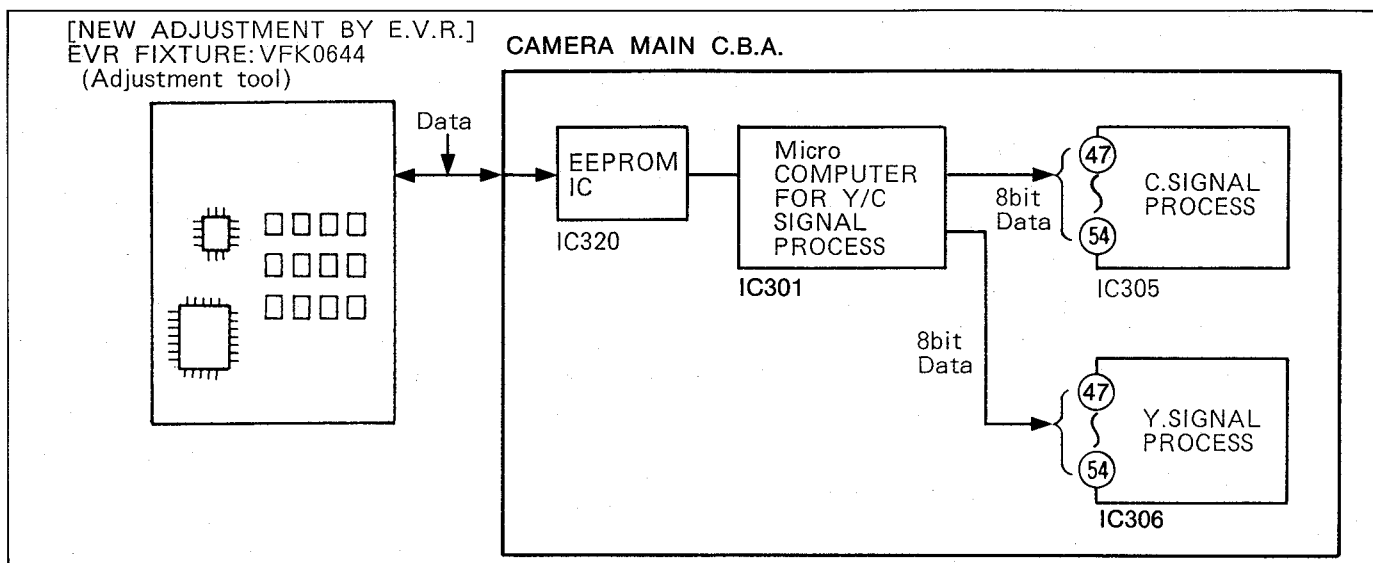


Fig. T1

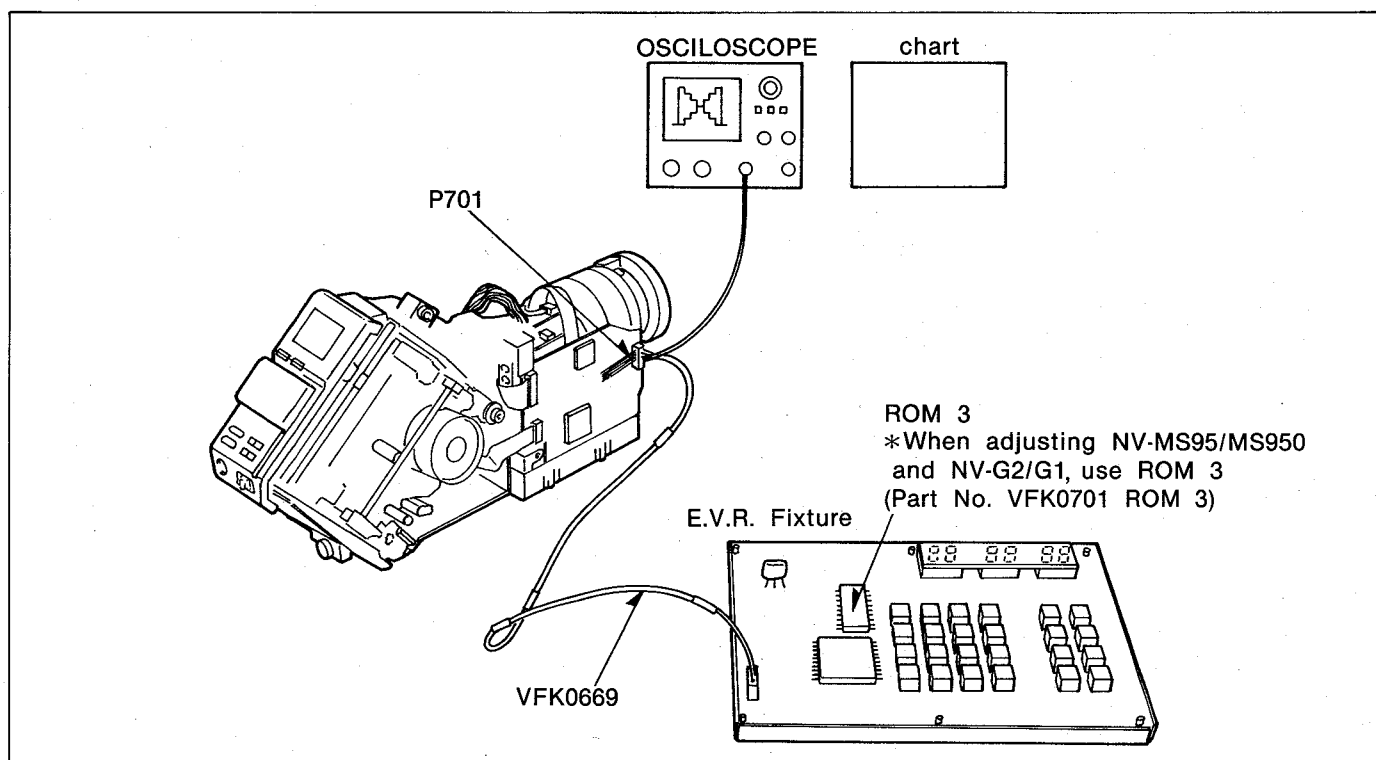


Fig. T2

2. Service Extension Cable.

Use following Extension Cable when checking or adjusting the individual circuit board assembly (C.B.A.) of video part or camera part.

NO.	PART NO.	Q'TY	PART NAME	CONNECTION
1	VFK0668	1	24 PIN EXTENSION CABLE	B701(CAMERA MAIN C.B.A.) TO B750 (LENS DRIVE C.B.A.)
2	VFK0668	1	24 PIN EXTENSION CABLE	P2001 (MAIN C.B.A.) TO P2101 (DRIVE C.B.A.)
3	VFK0709	1	26 PIN EXTENSION CABLE	B301(CAMERA MAIN C.B.A.) TO B201(SENSOR C.B.A.)
4	VFK0670	1	18 PIN FLAT CABLE	P6002 (MAIN C.B.A.) TO MECHANISM FLEXIBLE CABLE C.B.A.
5	VFK0710	1	23 PIN FLAT CABLE	P5003(MAIN C.B.A.) TO CYLINDER
6	VFK0711	1	30 PIN FLAT CABLE	P6003 (MAIN C.B.A.) TO P3502 (SUB MAIN C.B.A.))
7	VFK0699	1	22 PIN E.V.R. CONNECTION CABLE	E.V.R. FIXTURE TO P701(CAMERA MAIN C.B.A.)

3. How To Use Extension Cables.

(1) Connection between Main C.B.A., Sub Video C.B.A. and Drive C.B.A.

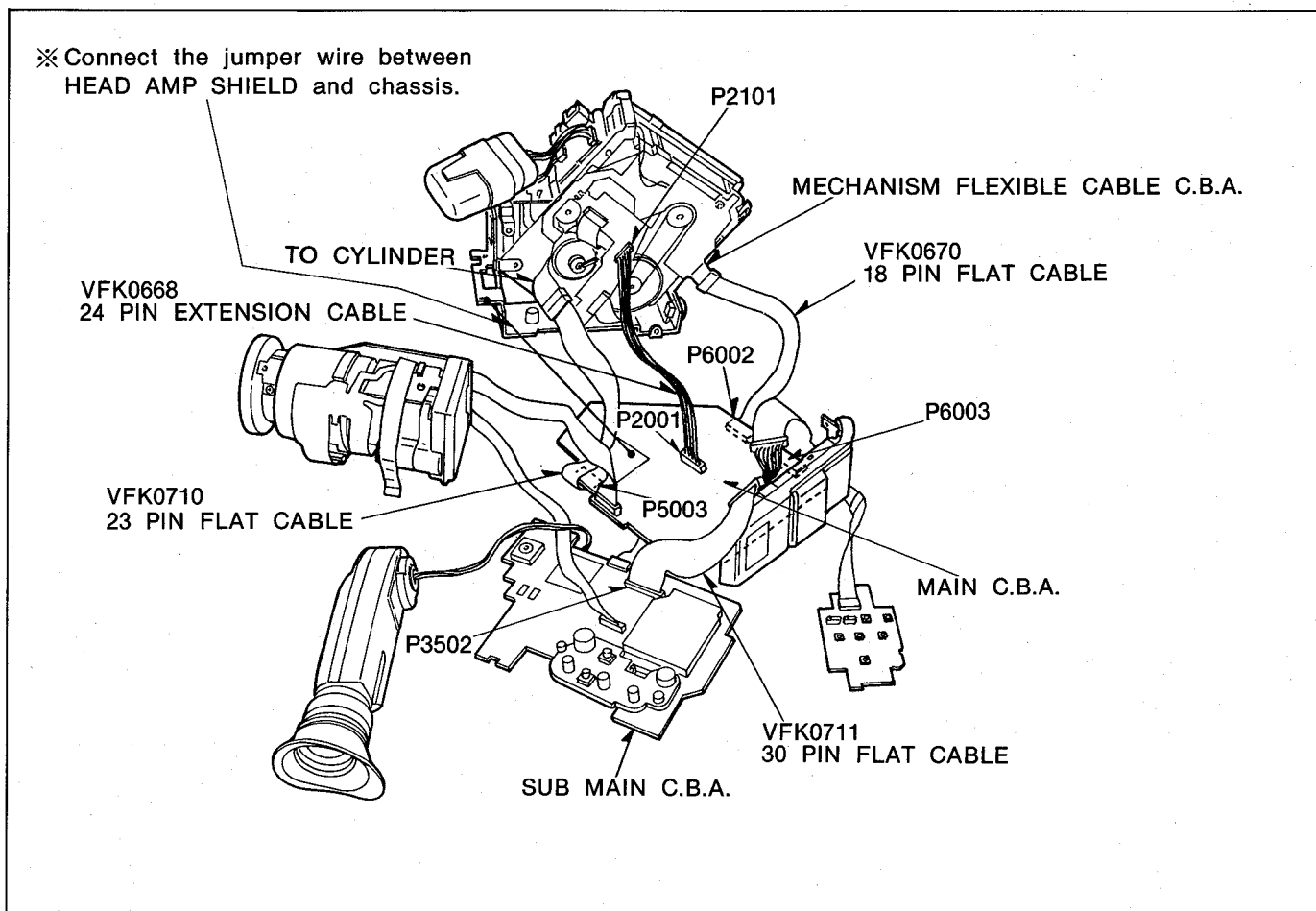


Fig. T3

(2) Connection between Camera Main C.B.A. and Sensor C.B.A.

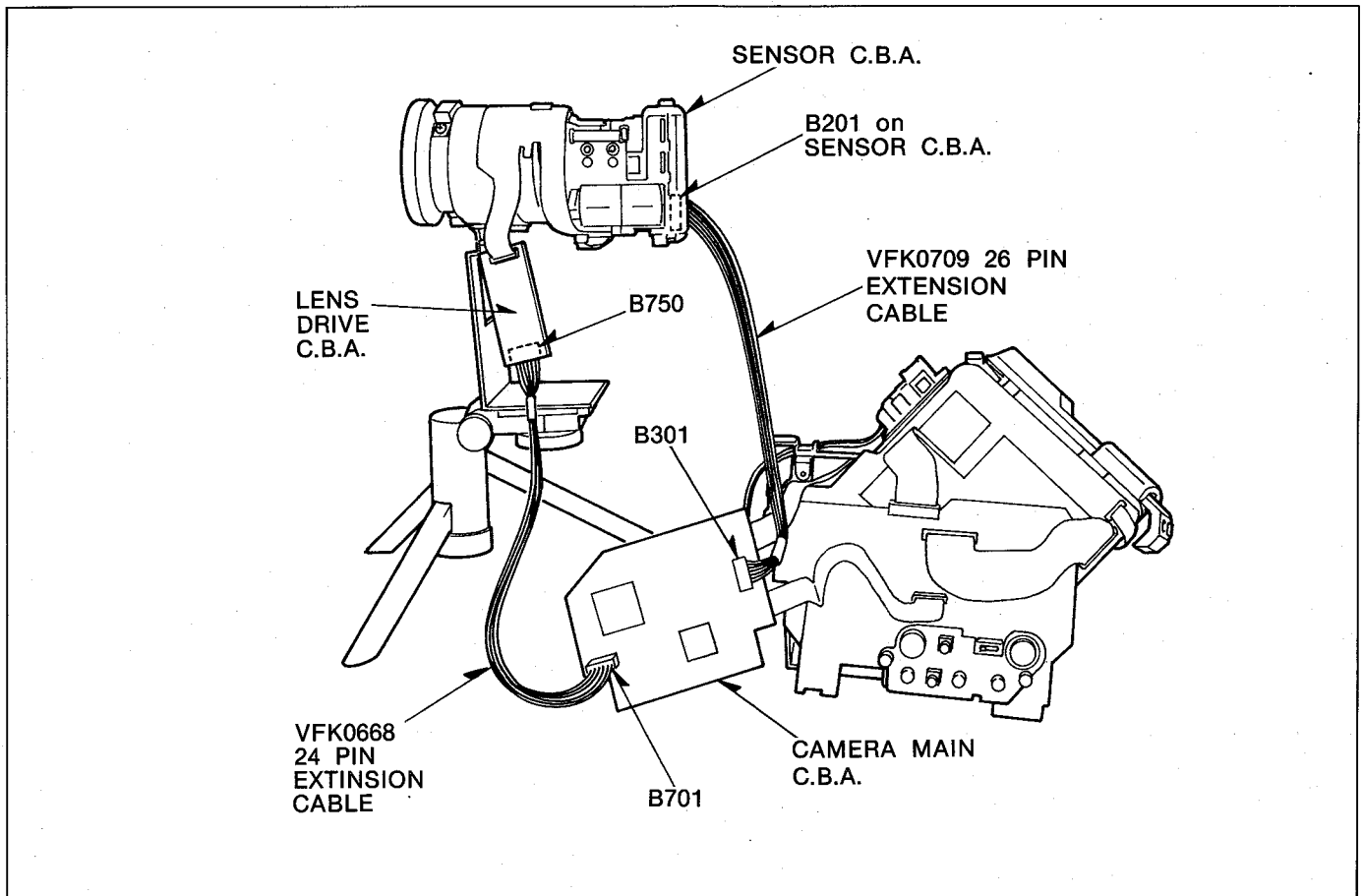


Fig. T4

4. How To Replace 0.5mm pitch IC.

(Required tools)

- * Spot Heater: (HS-600, etc) or cordless soldering iron: (80AEX, etc) (HOT Blowing type)
- * Blower Nozzle for spot Heater: (HS-611.614 615.618, etc)
- * Tweezers
- * Paper tape (Non-flammable Type)
- * Glue (paper glue, etc, to fix IC momentary)
- * Soldering sucker. (De-solder braid)
- * 0.3mm diameter solder
- * Solder flux
- * Special soldering iron (HS-11, etc) (sharp tip pencil type) (Removal)

- (1) Stick the paper tape around the IC for protection of chip components when hot air is blown.
- (2) Blow the hot air from upright position to the legs of IC using spot heater (attaching suitable nozzle).
- (3) When solder is melting, pick up the IC using tweezers.
- (4) Take paper tape out from C.B.A.

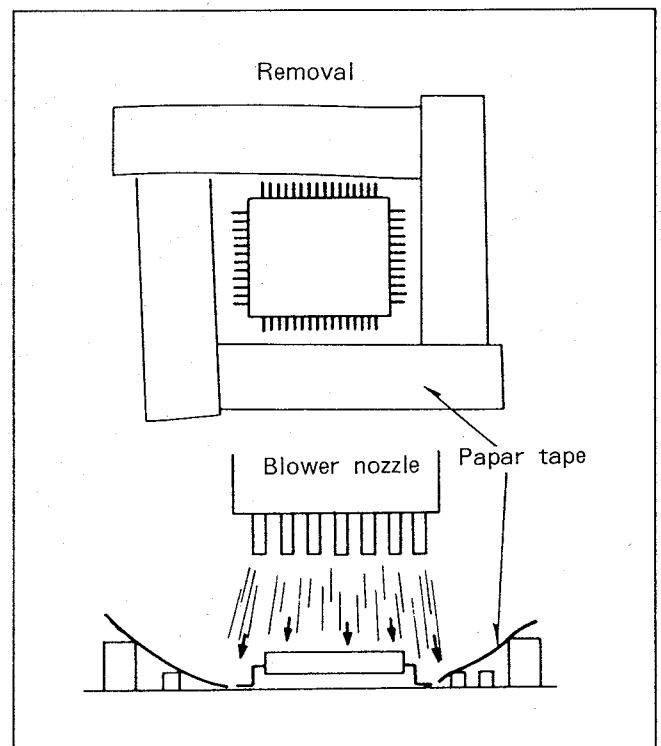


Fig. T5 Removal of IC

(Assemble)

- 1) Remove the solder which is remained on the round of IC using solder sucker. (De-solder braid).
- 2) Attach the glue little bit on the centre of IC round.
- 3) Put the new IC on to round and align the position of each pins with round.
- 4) Solder the 2 pins of opposite angle of IC with 0.3mm solder and confirm the position.
- 5) Solder the all pins of IC with 0.3mm solder and 0.3mm tip solder iron.
- 6) Confirm if all pins are connected.
- 7) If solder becomes bridge as shown in Fig. T7 correct the solder using solder sucker (De-solder braid).

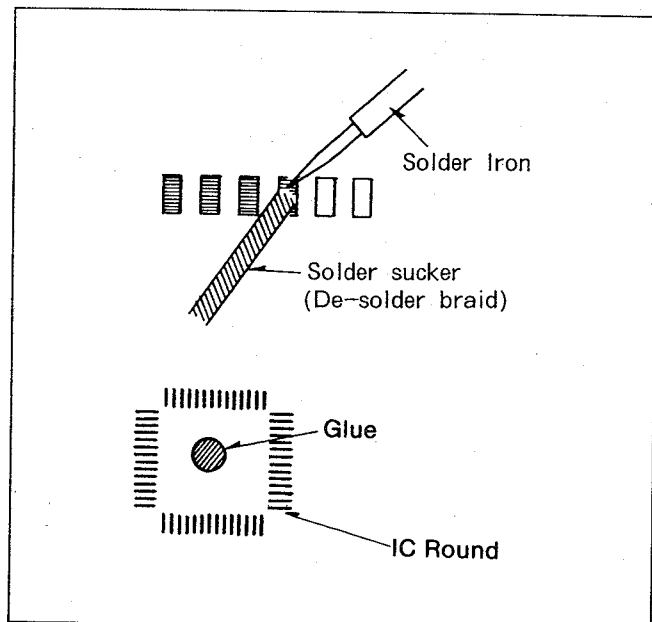


Fig. T6 Cleaning the remained solder

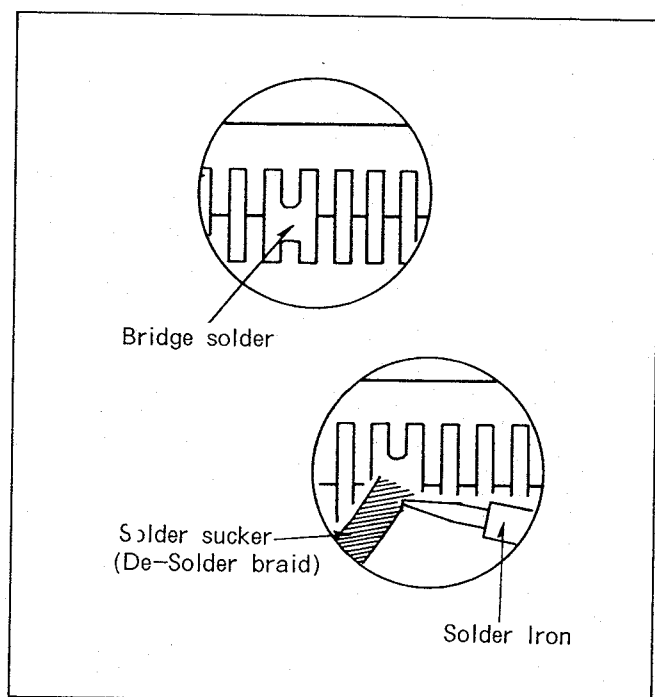


Fig. T7 Correcting bridge solder

5. How To Replace Capacitor.(New)

- 1) Heat the one side of capacitor with solder iron. and push its one side up by finger.
- 2) Remove one side of leg.
- 3) Heat the opposite side of capacitor and remove it.
- 4) When replacing new capacitor put the capacitor and solder it as conventional.

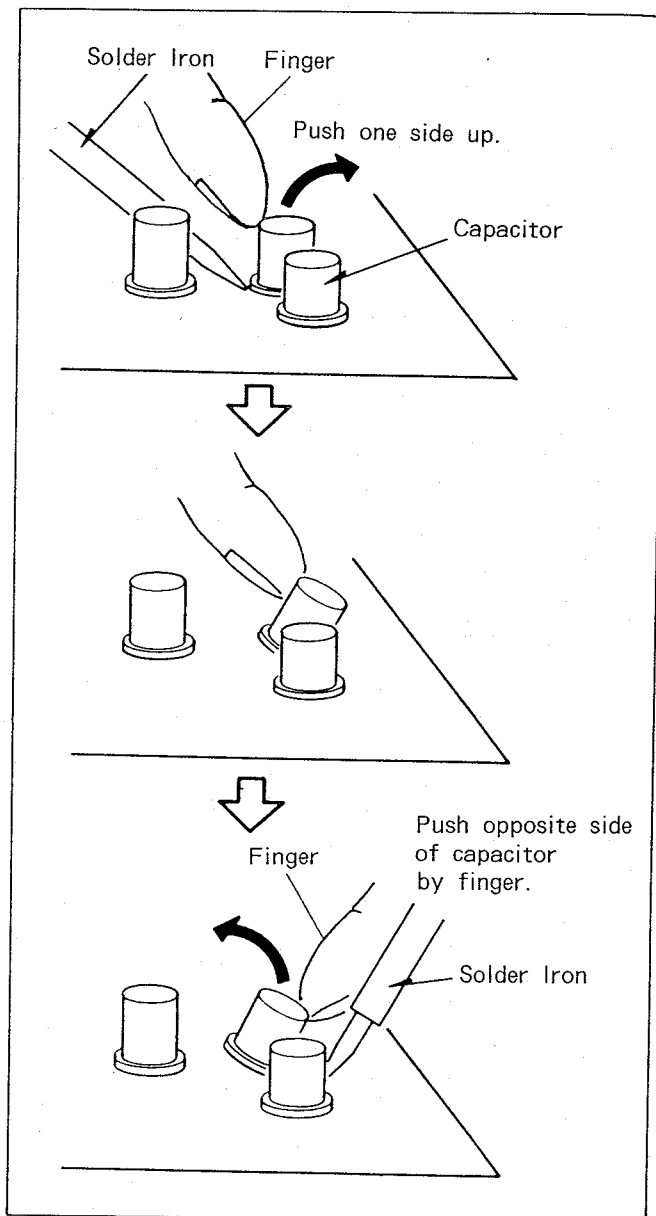


Fig. T8

6. How To Eject Manually.

- (1) In Case that Tape is fully unloaded.

* Remove the cassette cover and push the "A" position as shown in Fig. T9.

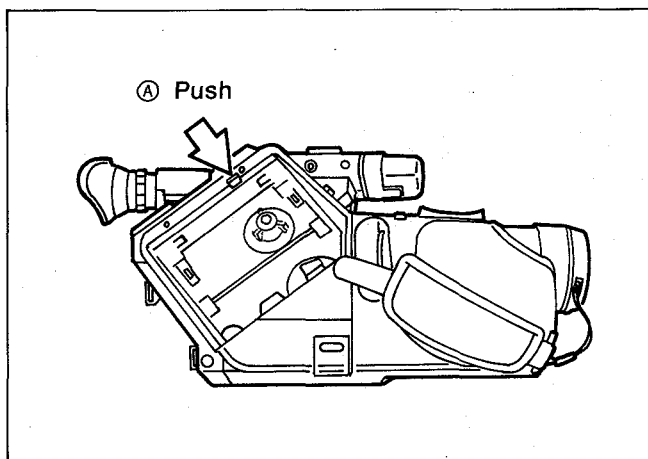


Fig. T9

(2) In Case that Tape is not rewound Completely but mechanism is fully unloaded.

- * Remove the cassette cover and side case L, R as shown in Fig. T10. (Please refer to Disassembly Procedures.)
- * Rotate the capstan Rotor until tape is rewound completely.
- * Eject it as procedure (1).

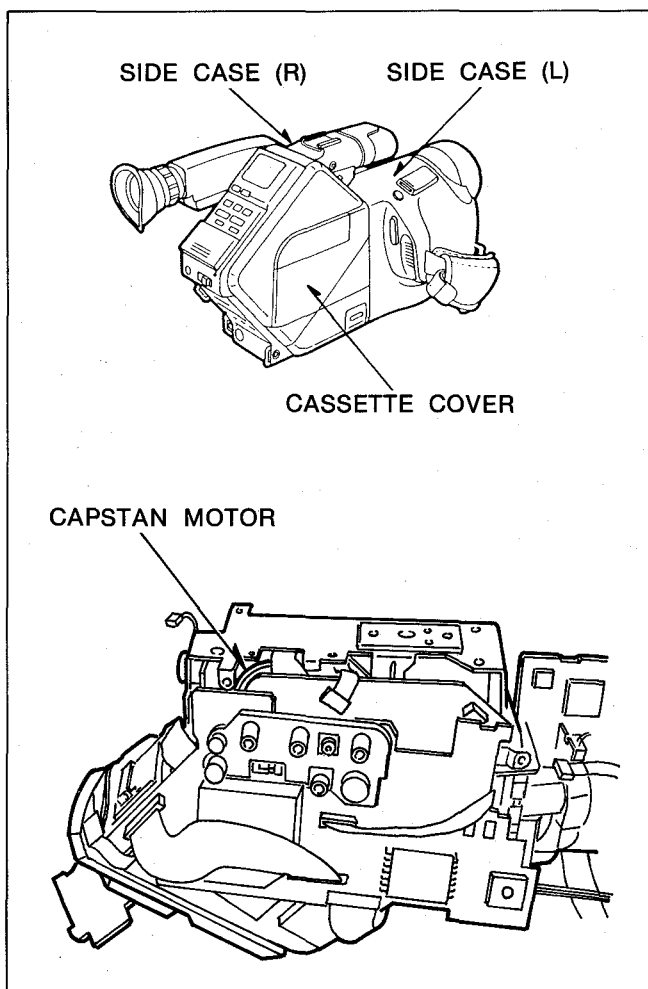


Fig. T10

(3) In Case that Tape and mechanism are still loading condition.

- * Remove the cabinet parts.
- * Remove the sub Main C.B.A. and Main C.B.A.
- * De-solder the soldering between loading motor and Mechanism flexible C.B.A.
- * Supply DC voltage (3V) to loading motor terminal and make it unloading.

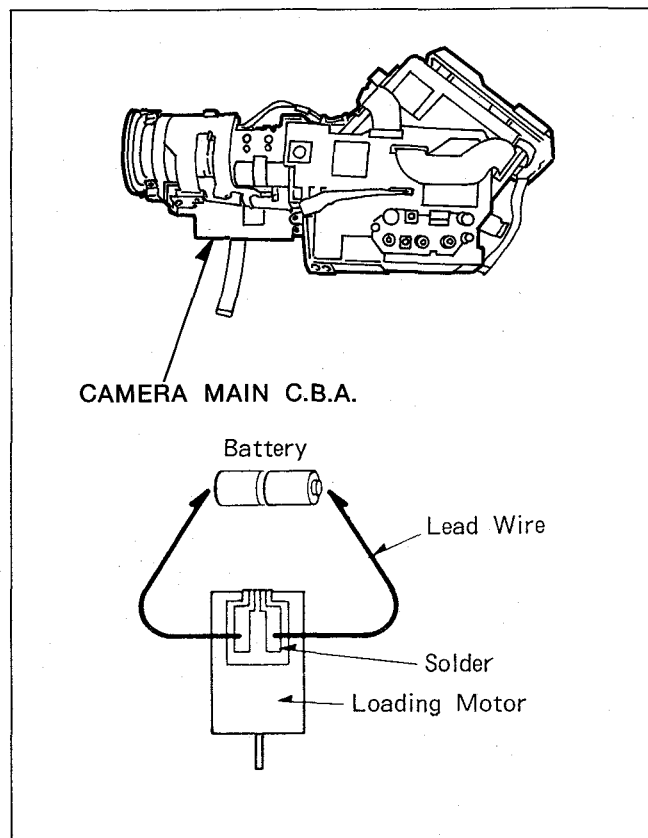


Fig. T11

7. How to use the Camera Holder

- * Camera Holder (VFK0382)
- * Screw (XQN2+CF4)

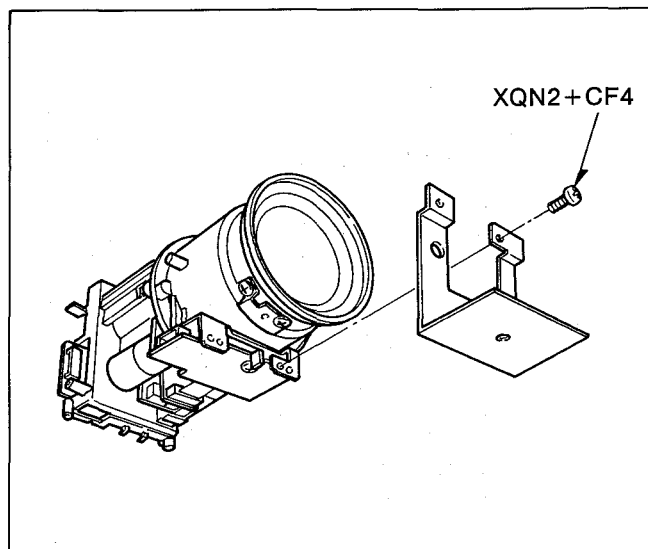
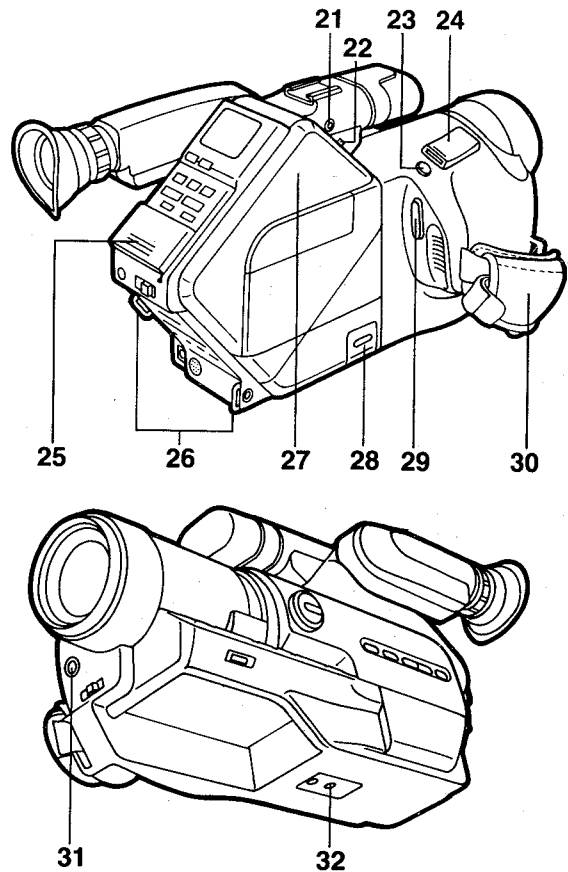
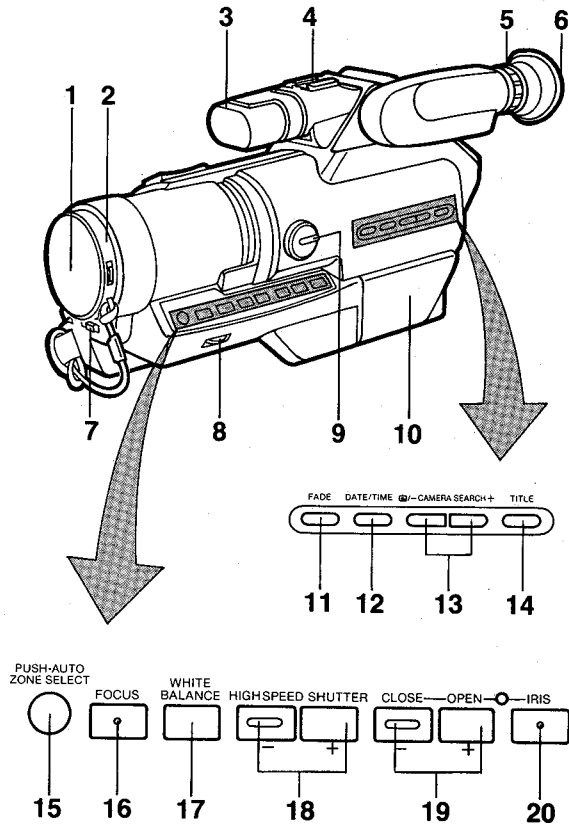


Fig. T12

SECTION 1

GENERAL DESCRIPTION

1-1. CONTROLS AND COMPONENTS

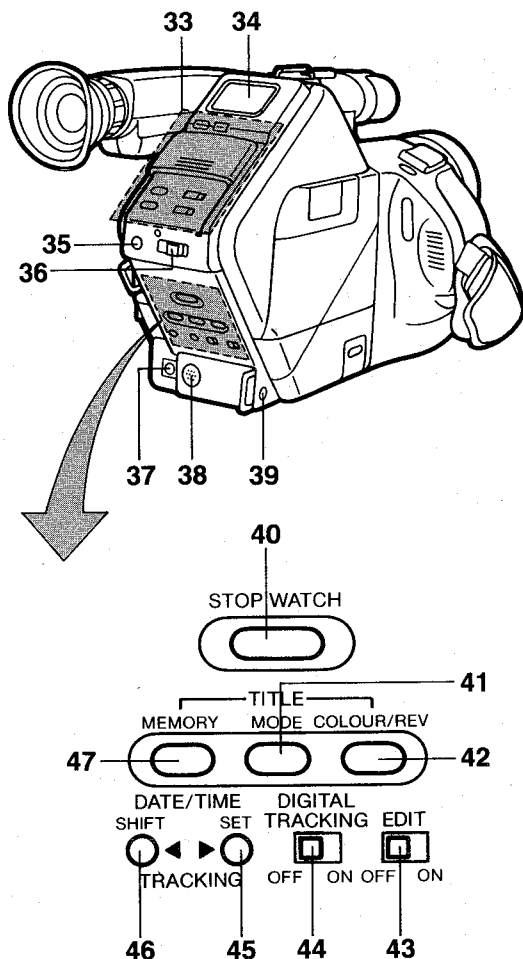


- 1 White Cap
- 2 Lens Hood
- 3 Built-in Stereo Microphone
- 4 Accessory Shoe
- 5 Eyepiece Corrector Control
- 6 Electronic Viewfinder
- 7 Battery Eject Lever
- 8 Manual Focus Control
- 9 Camera Mode Selector Switch
- 10 Connection Sockets Cover
- 11 Fade Button
- 12 Date/time Selector Button
- 13 Camera Search +, - Button
- 14 Title Function On/Off Button
- 15 Push Auto/Zone Selector Button
- 16 Focus Mode Selector Button
- 17 White Balance Button
- 18 High Speed Shutter Selector
- 19 Iris Close/Open Control
- 20 Iris Button

- 21 External Microphone Socket
- 22 Filter Selector
- 23 On Screen Display Button
- 24 Power Zoom Control Buttons
- 25 Camera/VTR Selector Cover
- 26 Shoulder Strap Holders
- 27 Cassette Compartment
- 28 Button Battery Holder
- 29 Recording Start/Stop Button
- 30 Grip Belt
- 31 Recording Start/Stop Button
- 32 Tripod Receptacle

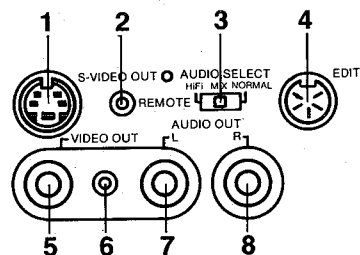
25 Function of the Camera/VTR Selector Cover

- Closed For camera recording.
- Open (as illustrated) For other operations than camera recording.

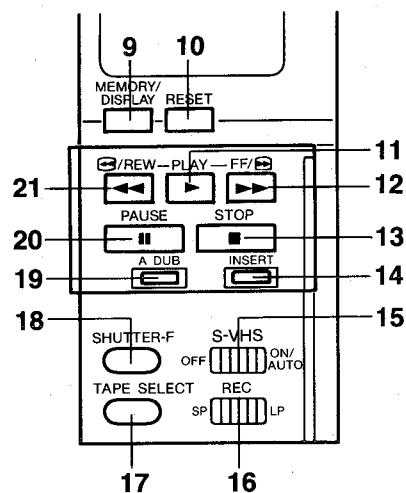


- 33 General Operation Control
- 34 LCD Display
- 35 Eject Button
- 36 Operation On/Off Switch
- 37 DC Input Socket
- 38 Character Generator Socket
- 39 Headphones Socket
- 40 Stopwatch Button
- 41 Titling Mode Selector Button
- 42 Title Colour/Colour Reverse Selector Button
- 43 Edit Switch
- 44 Digital Tracking On/Off Switch
- 45 Tracking/Date/Time Set Button
- 46 Tracking/Date Time Shift Button
- 47 Memory Button

10 Connection Sockets Cover



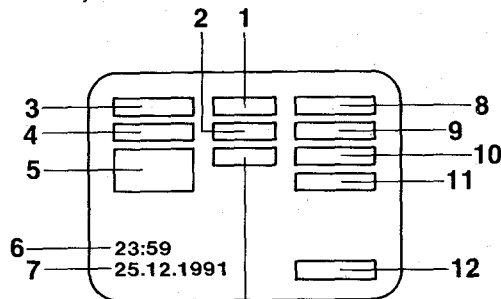
33 General Operation Controls



- 1 S-Video Output Socket
- 2 Remote Control Socket
- 3 Audio Selector Switch
- 4 Edit Socket
- 5 Video Output Socket
- 6 RF DC Output Socket
- 7 Audio Output Socket (L)
- 8 Audio Output Socket (R)
- 9 Memory/Display Button
- 10 Reset Button
- 11 Play Button
- 12 Fast Forward/Cue Button
- 13 Stop Button
- 14 Insert Button
- 15 S-VHS System Selector
- 16 Recording Speed Selector
- 17 Tape Selector Button
- 18 Shutter-F Button
- 19 Audio Dubbing Button
- 20 Pause Button
- 21 Rewind/Review Button

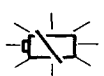
1-2. INDICATIONS IN THE ELECTRONIC VIEWFINDER (EVF)

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the conditions of the Movie Camera.



Warning/Alarm Indications

Warning/Alarm Indications



When only one bar "—" in the Battery Power Indication remains, the Battery Indication "⚡" starts to flash. When the last bar has disappeared, the flashing becomes faster. In this condition, there is little power left, and the Movie Camera will be turned off in a few minutes. Replace the Battery Pack with a fully recharged one.



There is no cassette tape inserted, or the tab of the inserted cassette is broken out. The indications flashes to warn that recording is not possible.

END

During recording, the tape has almost reached its end. Replace the tape with a new one. The indication will remain lit when the tape has reached its end.



When condensation has formed inside the Movie Camera, the "DEW" indication will flash and a few seconds later, the unit itself off.



Video Head Clogging (see page 25)



When the button type Battery for the Title Memory and Auto Date functions is not inserted or when it is exhausted, the indication will flash for 10 seconds after the Movie Camera is turned on.

1 Remaining Battery Power/Index Indication

- E--F** The "—" indications begin to disappear from right to left as the power of the Battery Pack weakens.
- INDEX** This indication flashes when a recording is started and it indicates that an index signal is being recorded.

2 Counter Indication

- 1:23.45** Tape Counter
- M 1:23.45** Memory Counter
- L 0:01.12** One Scene Lap Time Counter

3 Tape Remaining Indication

4 Manual White Balance Indication



Manual Mode, Not adjusted

W.SET

Manual Mode, Hold Mode

5 Digital Memory Indication

- WHT** Colour Indication
- WIPE ↑** Mode Indication (No indication in normal mode.)

6 Time Indication

7 Date Indication

8 Tape Running Indications

- REC** Recording Mode
- PAUSE** Recording Pause mode, Rec Review
- ▷** Play mode, Camera Search (In forward direction)
- ||** Still mode
- ▷▷** Fast Forward/Cue mode
- ◁◁** Rewind/Review mode, Camera Search (In reverse direction)
- INST ▷** Insert Editing mode
- INST ||** Insert Editing Pause mode
- A.DUB ▷** Audio Dubbing mode
- A.DUB ||** Audio Dubbing Pause mode

9 S-VHS System Indications

- S-** S-VHS System
- " "** VHS System

Recording Mode Indications

- SP** SP mode
- LP** LP mode

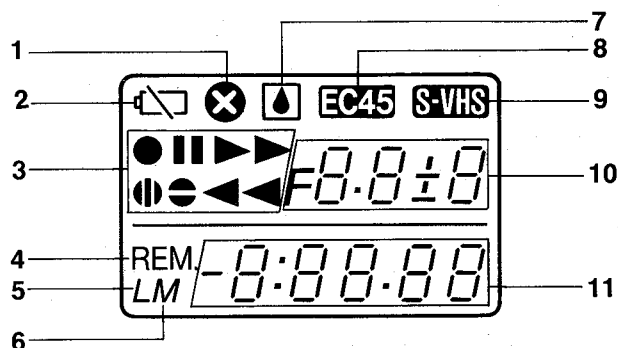
10 F number/Exposure Compensation Indications

11 High Speed Shutter Mode Indications

12 Stopwatch Indication

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warnings.

1-3. INDICATIONS IN THE LCD DISPLAY



1 Video Head Clogging

2 Remaining Battery Power Indication

The indication  will flash as the Battery power weakens.

3 Tape Running Indications

- ▶: Recording mode
- ||: Recording Pause mode
- ▶▶: Fast Forward/Cue mode
- ◀◀: Rewind/Review mode, Camera Search (in reverse direction)
- ▶: Play mode, Camera Search (in forward direction)
- ||: Still mode
- ◐▶: Insert Editing mode
- ◐||: Insert Editing Pause mode
- ▶: Audio Dubbing mode
- ||: Audio Dubbing Pause mode

4 Tape Remaining Indication

5 One Scene Lap Indication

6 Memory Indication

7 Dew Indication ()

8 Tape Selector Indicator

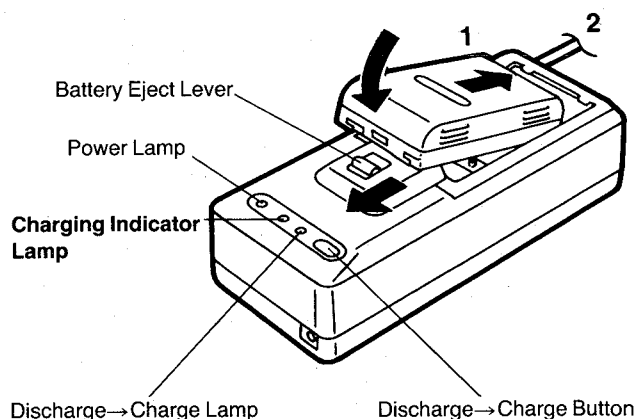
9 S-VHS Mode Indication

10 Iris Indications

11 Counter Indications

1-4. BATTERY PACK

Charging



1 Attach the Battery Pack.

2 Connect the AC Adaptor to the Mains.

●Charging Indicator Lamp

Lights while charging is taking place and goes out when charging is finished.

Note:

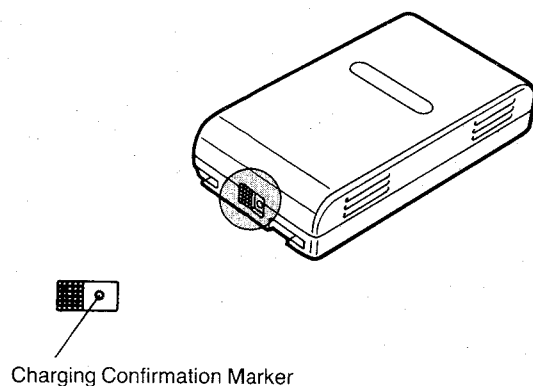
- The charging takes about 60 minutes.
- The Movie Camera can be used continuously for approx. 45 minutes with a fully charged Battery Pack.
- With the VW-VBS2E Battery Pack (optional), the charging as well as possible recording time is twice as long as for the standard supplied Battery Pack.

■ When the charging is completed, slide the Battery Eject Lever in the direction of the arrow and remove the Battery Pack.

■ Discharge→Charge Function

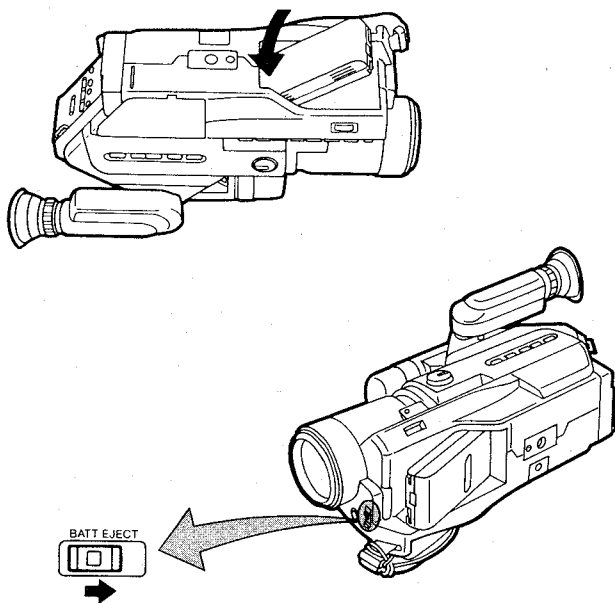
The Battery Pack can be recharged for repeated use. However, if it is recharged repeatedly while there is still some charge left, its charging capacity will be gradually reduced. Therefore, if you often need to recharge semi-discharged Battery Packs, attach the Battery Pack to the AC Adaptor, connect the AC Adaptor Mains, and press the Discharge→Charge Button to completely discharge the Battery Pack. (The Discharge→Charge Lamp will light up, and when the discharging is finished, the Charging Indicator Lamp will light up instead.) This will increase the charging capacity and extend the operating life of the Battery Pack. Therefore, if the operating life of the Battery Pack becomes noticeably shorter, refresh it. (It is recommended to refresh the Battery Pack approx. once every five rechargings.)

Charging Confirmation Marker on the Battery Pack



This marker makes it convenient to distinguish between charged and discharged Battery Packs. For example, visible dot means charged Battery Pack, and no dot means discharged Battery Pack.

Attaching



- 1 Align the grooves of the Battery Pack and the Movie Camera.
- 2 Insert the Battery Pack until it locks with a click.
 - To remove the Battery Pack, press the centre part of Battery Eject Button and slide it to right.

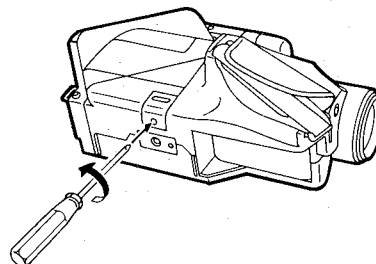
Caution:

- Wait about 10 seconds after turning the Movie Camera off, before removing the Battery Pack.
- If the Battery Pack is removed during recording or playback, the tape remains wound around the video head cylinder and could become damaged.

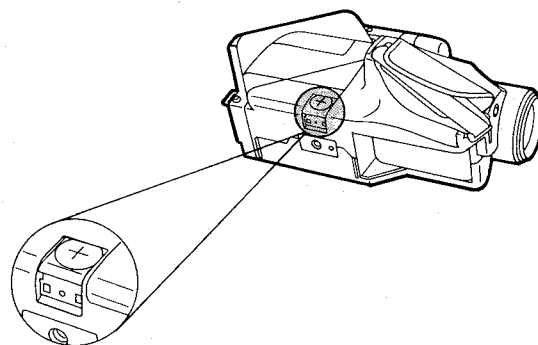
1-5. SETTING THE CLOCK

How to Insert the Battery for the Clock Operation

- 1 Remove the lid.



- 2 Insert the "CR2032" size battery with polarities (+ and -) aligned correctly and then replace the lid.



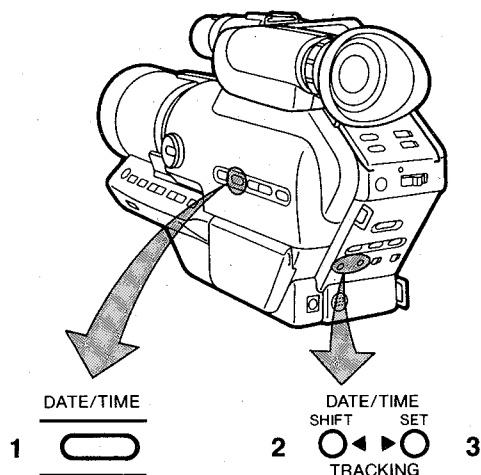
Note:

- This battery is necessary for the Date & Time, Title and S-VHS to be memorized by the Movie Camera.
- If the battery is not inserted or if it is exhausted, the indication "BACKUP" in the EVF will flash for approximately 10 seconds when turning the Movie Camera on.
- When replacing the battery while the Time & Date Indications are still correct, connect the Battery Pack or AC Adaptor to Movie Camera for the duration of the battery replacement so that the time will remain unchanged.

CAUTION FOR BATTERY REPLACEMENT

- The life of the battery is about one year. Inspect and if necessary, replace the Battery once a year.
- Load the new battery with its polarities (+ and -) aligned correctly.
- Remove spent battery immediately and dispose of it.
- Do not try to short-circuit, recharge or heat the battery and do not throw it into a fire.

Setting of the Date and Clock



- 1 When the Date/Time Selector Button is pushed, the indication shown on the right will appear in the EVF.
● If no battery is inserted, the indication "BACKUP" will flash.
- 2 When the Shift Button is kept pressed for more than about 2 seconds, the "Year" portion will start to flash. Then, at every press of the shift Button, the items to be set will flash in the following sequence.

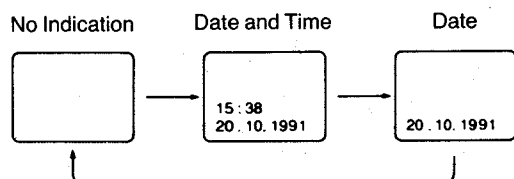
Year→Month→Date→Hour→Minute→" "→...

- 3 When the Set Button is pushed, the flashing portion displayed will be changed in the following sequence.
YEAR: 1990→1991→.....→2089→1990→...
MONTH: 1→2→.....→12→1→...
DATE: 1→2→.....→31→1→...
HOUR: 0→1→.....→23→0→...
MINUTE: 00→01→.....→59→00→...

- Repeat procedures 2 and 3 until all items have been set.
- Once the time and date are set, press the Shift Button in response to a precise time signal so that the clock may begin to function.

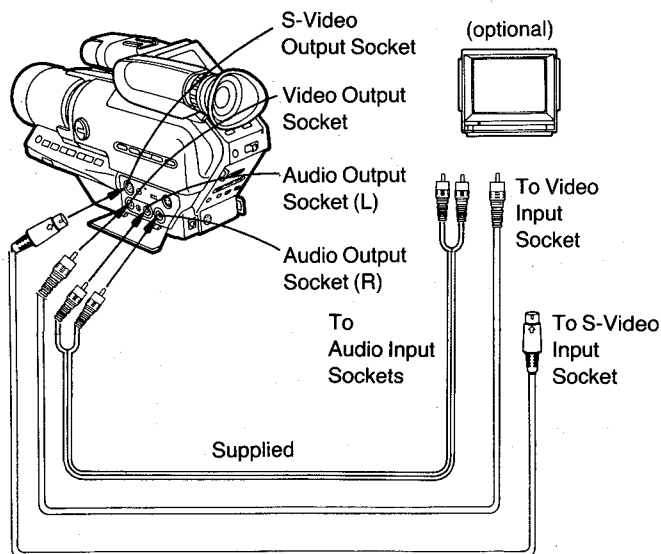
Recording the Date/Time Indications

When the Date/Time Selector is pushed repeatedly, the indications will change in the following sequence:



1-6. PLAYBACK VIA TV SET (CONNECTIONS)

TV Set with AV Input



Playback via S-Video Cable

Connect this cable if the TV set is equipped with an S-Video Input Socket.

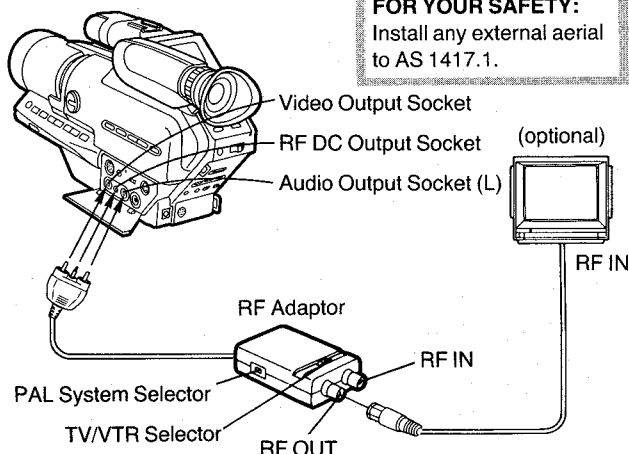
Playback on a table Type VTR

Use the Cassette Adaptor.

TV Set without AV Socket

Australia model only:

FOR YOUR SAFETY:
Install any external aerial to AS 1417.1.



TV

Tune to UHF channel 36.

TV/VTR Selector on the RF Adaptor

- VTR: For playing back a cassette
- TV: For watching TV.

PAL System Selector

For the Australia and New Zealand region, set the RF Converter Channel Selector at "G" position.

Note:

When an RF Adaptor is used, the playback sound will be in mono.

SECTION 2

ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

2-1-1. DISASSEMBLY FLOW CHART

The following flowchart describes the order or steps for removing the cabinet parts and certain printed circuit boards in order to make access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

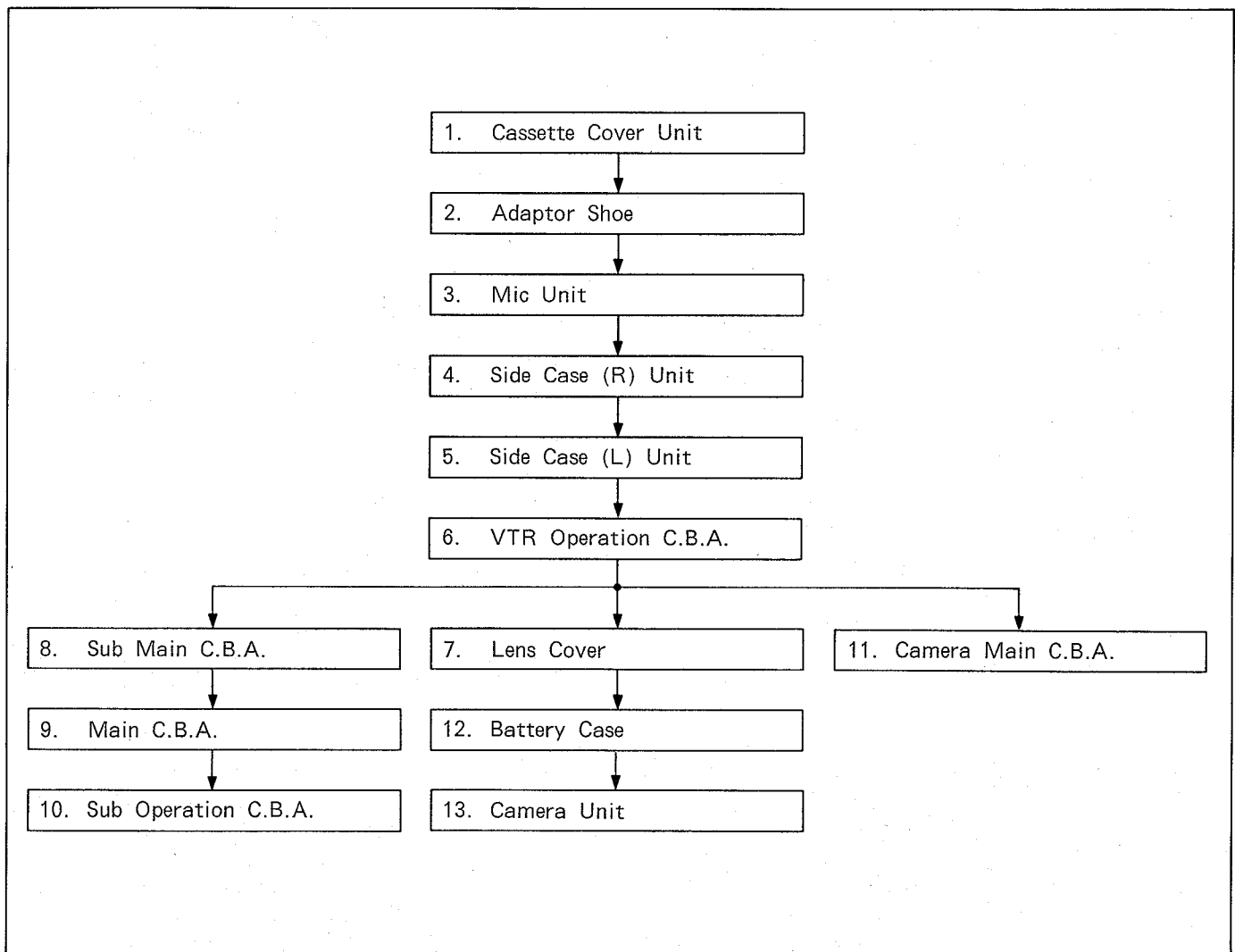


Fig. D1

2-1-2. DETAILED DISASSEMBLY METHOD

1. Removal of the cassette cover.
Remove.....2 screws (A)

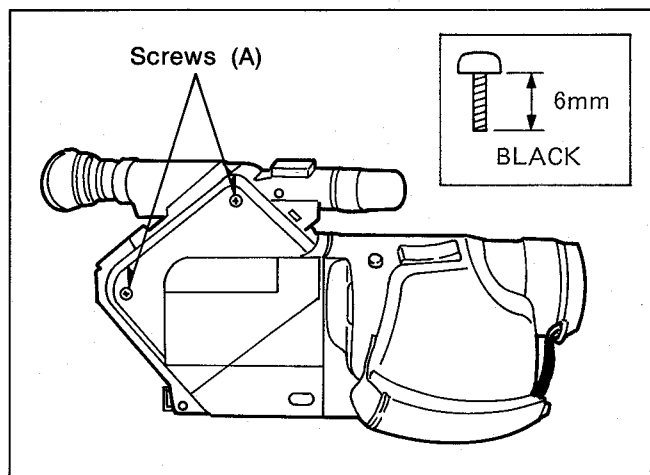


Fig. D2

2. Removal of Shoe Angle and Adaptor Shoe.
Remove.....1 screw (B)
Remove.....4 screws (C)

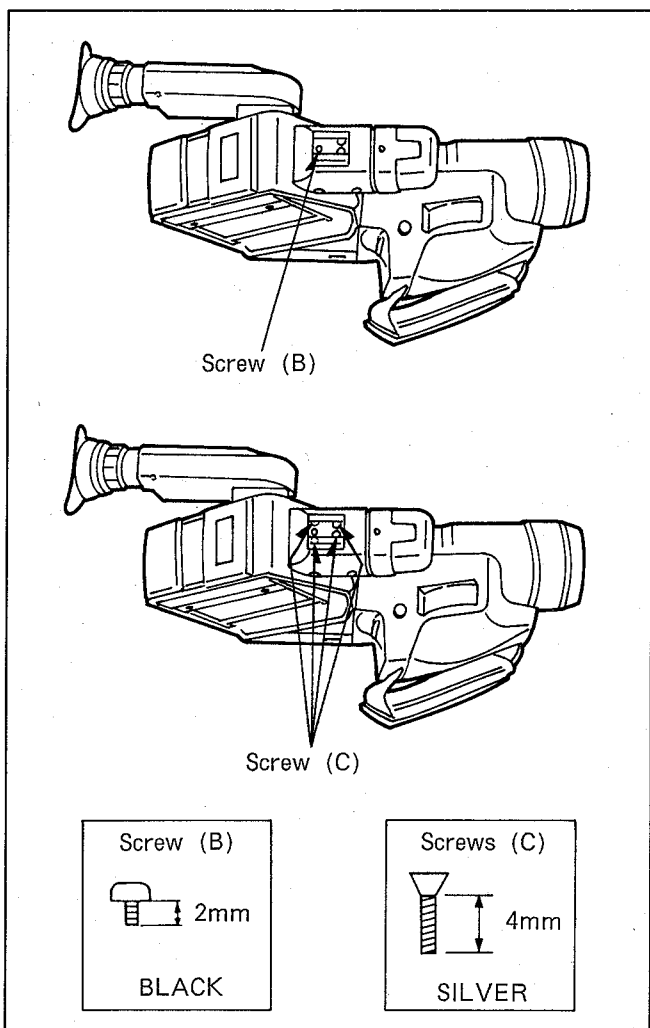


Fig. D3

3. Removal of Mic Unit.
Remove.....2 screws (D)
Slide it to front side to remove it.

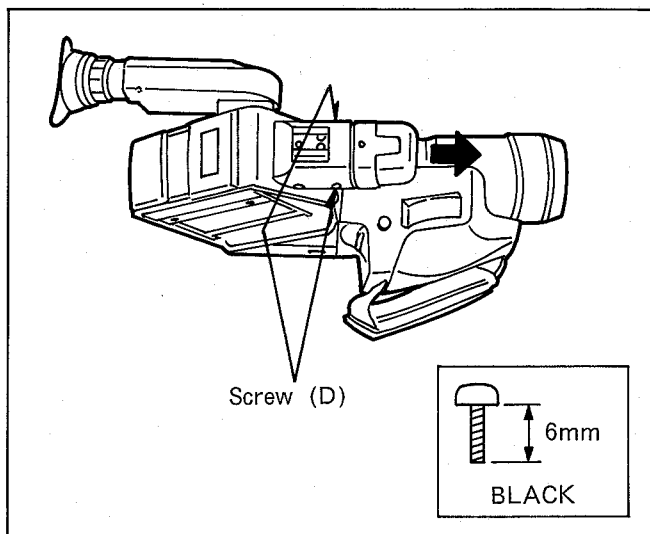


Fig. D4

4. Removal of Side Case (R) Unit and Sub Operation Case Unit.
Remove.....8 screws (E)
Remove.....2 screws (F)
Remove.....4 screws (G)
Remove.....2 screws (H)
Remove.....2 connectors (P3504,FP002)

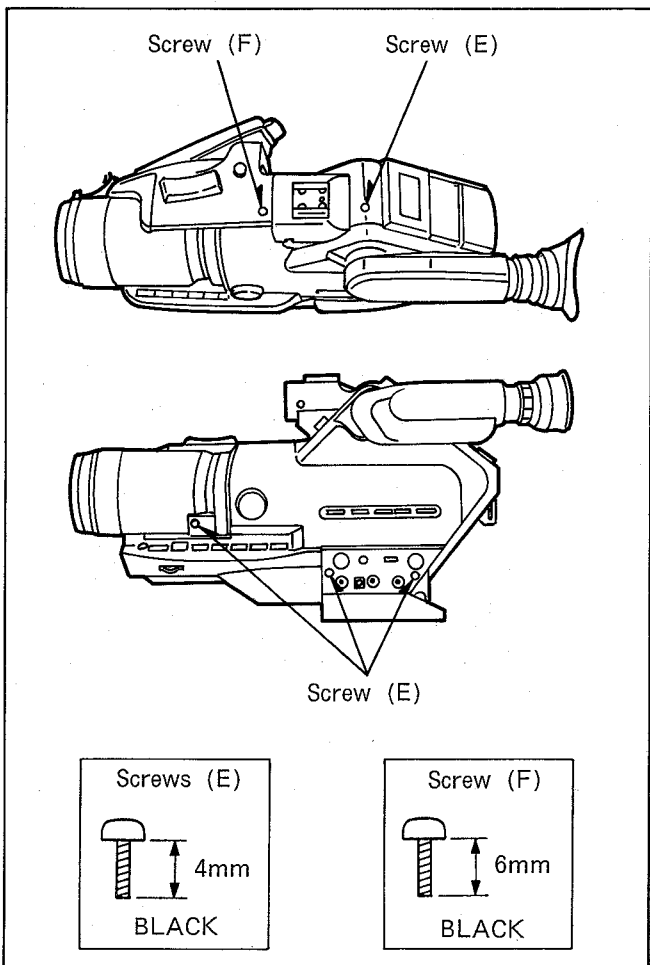


Fig. D5-1

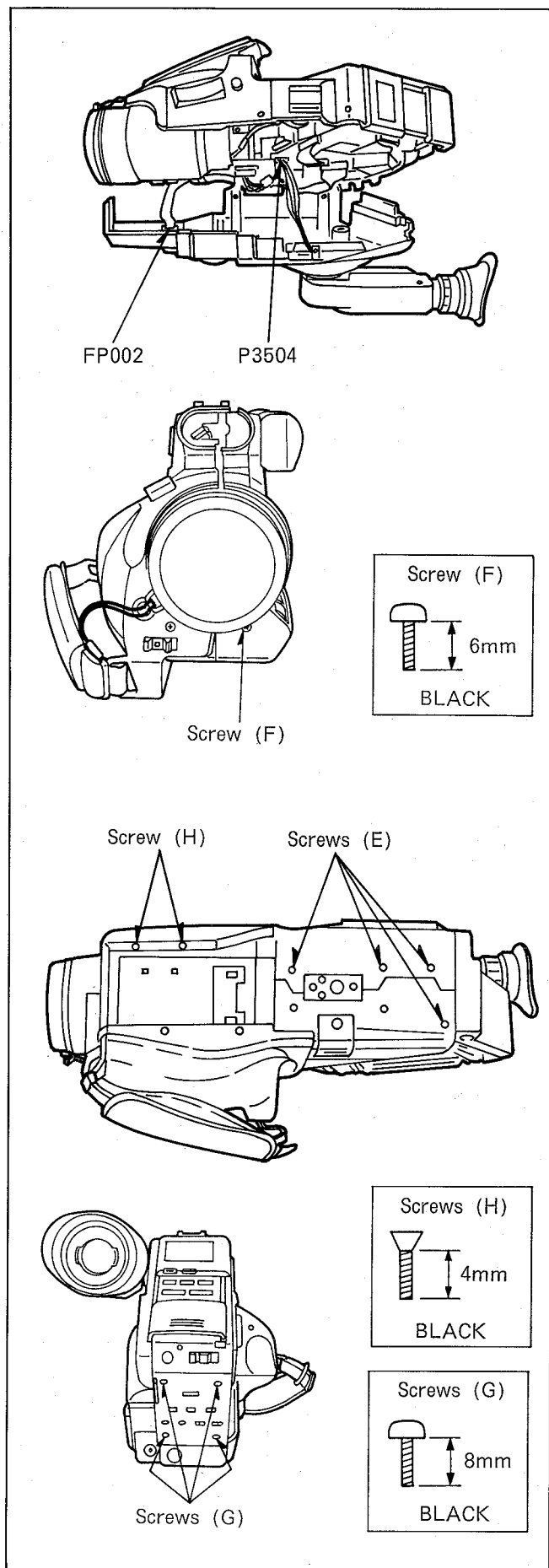


Fig. D5-2

5. Removal of Side Case (L) Unit.
 Remove.....4 screws (I)
 Remove.....3 screws (J)
 Remove.....2 connectors (P6005,P703)

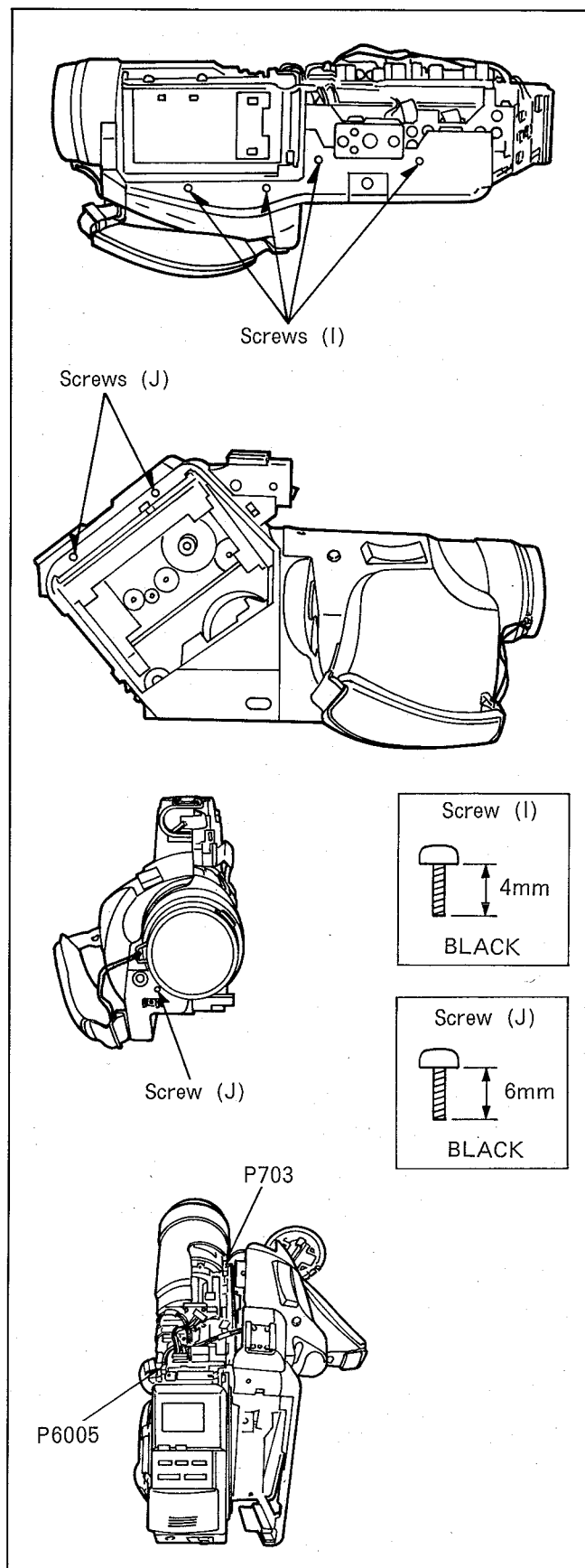


Fig. D6

6. Removal of VTR Operation C.B.A. slide it to arrow mark.

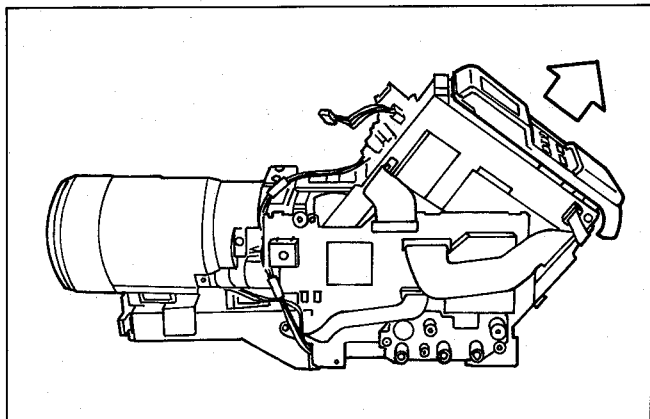


Fig. D7

7. Removal of Lens Cover.
Turn the Lens Hood to counterclock wise.
Remove.....1 screw (K)
Remove.....1 screw (L)

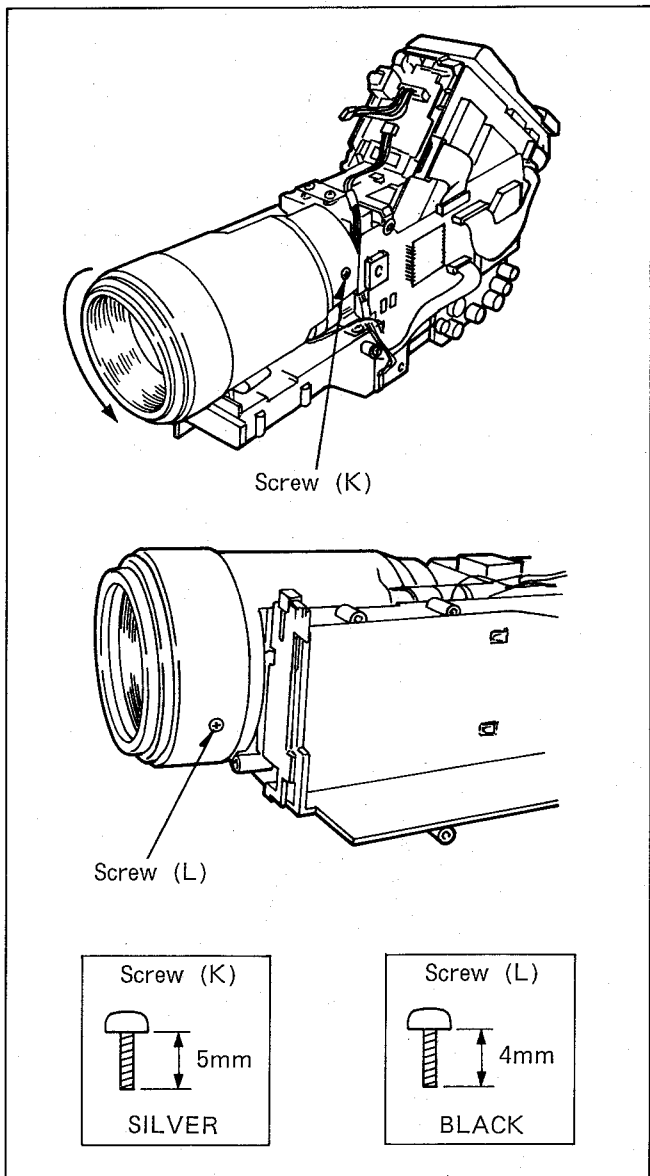


Fig. D8

8. Removal of Sub Main C.B.A.
Remove.....2 screws (M)
Remove.....4 connectors (P3501, P3502, P3503, P1001)
Take out.....Locking tab

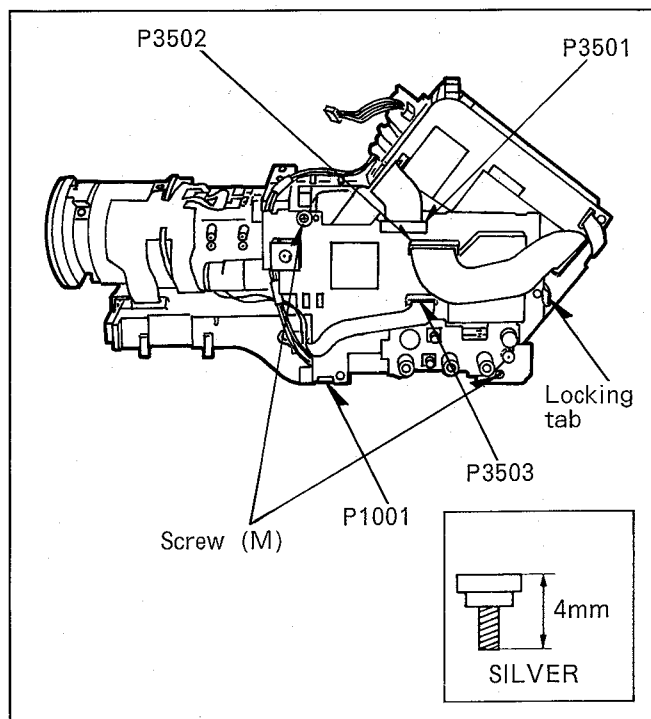


Fig. D9

9. Removal of Main C.B.A.
Remove.....3 screws (N)
Remove.....5 connectors (P5003, P4002, P6004, P6002, P3002, P4501)

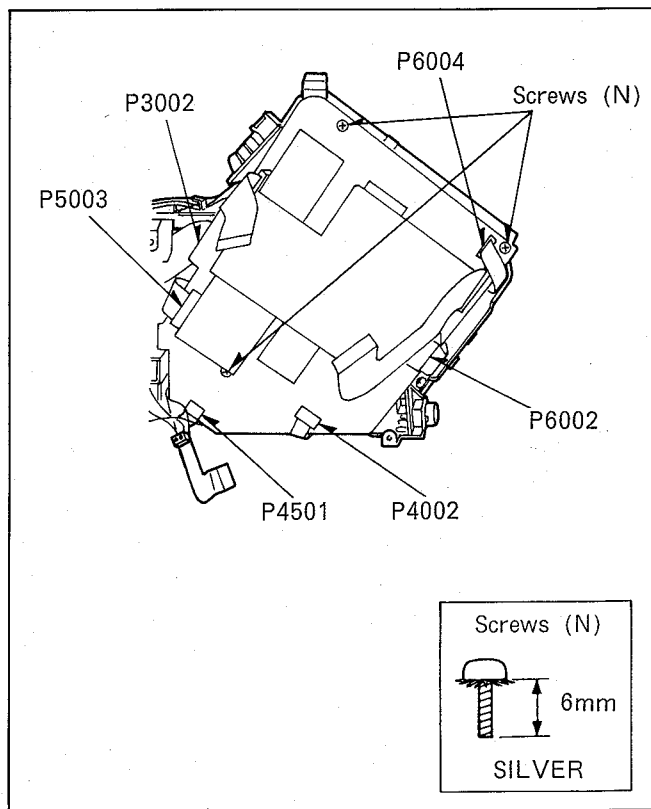


Fig. D10

10. Removal of Sub Operation C.B.A.
Remove.....1 screw (O)

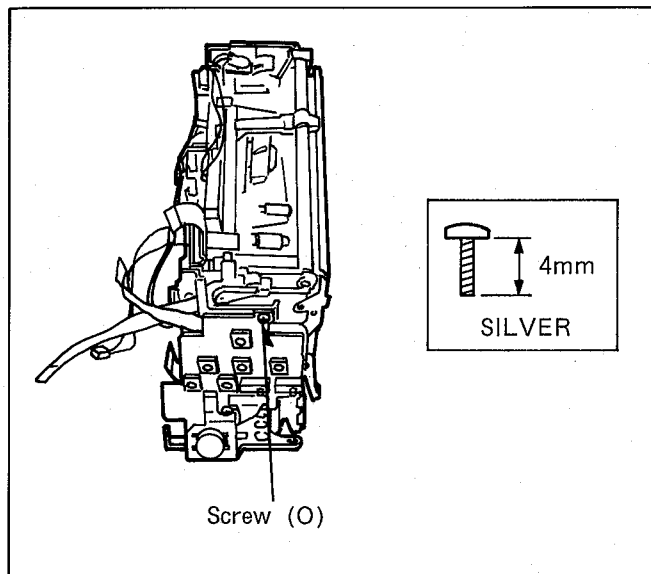


Fig. D11

11. Removal of Process C.B.A.
Remove.....2 screws (P)
Remove.....2 connectors (FP301, FP302)

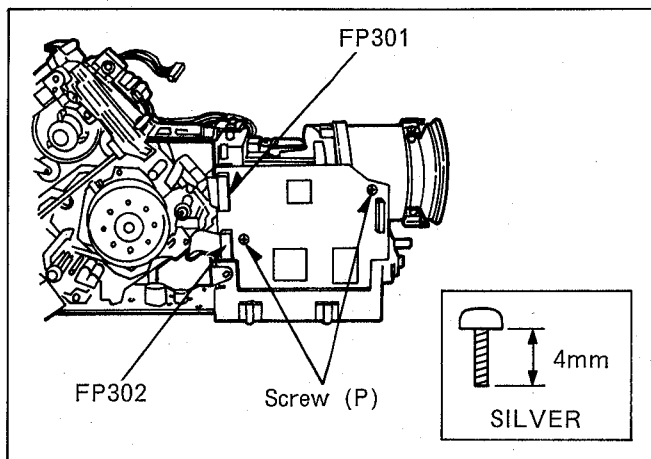


Fig. D12

12. Removal of Battery Case.
Remove.....4 screws (Q)

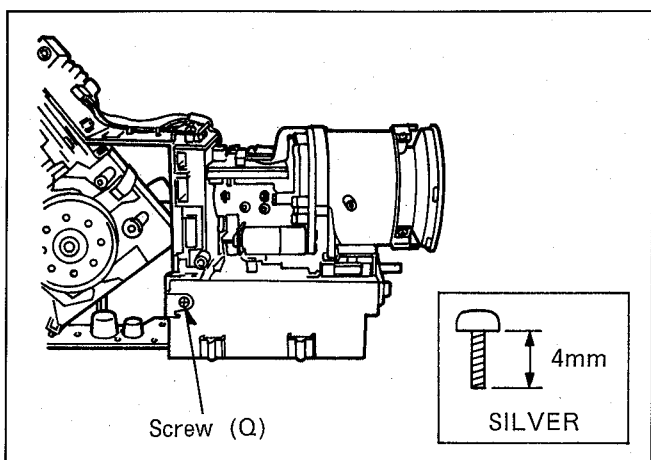


Fig. D13-1

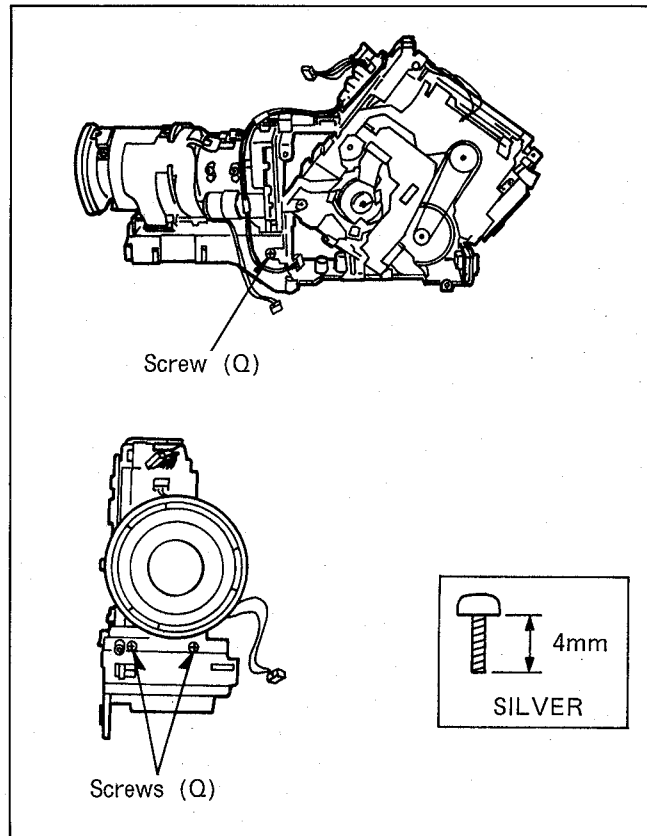


Fig. D13-2

13. Removal of Camera Unit.
Remove.....4 screws (R)

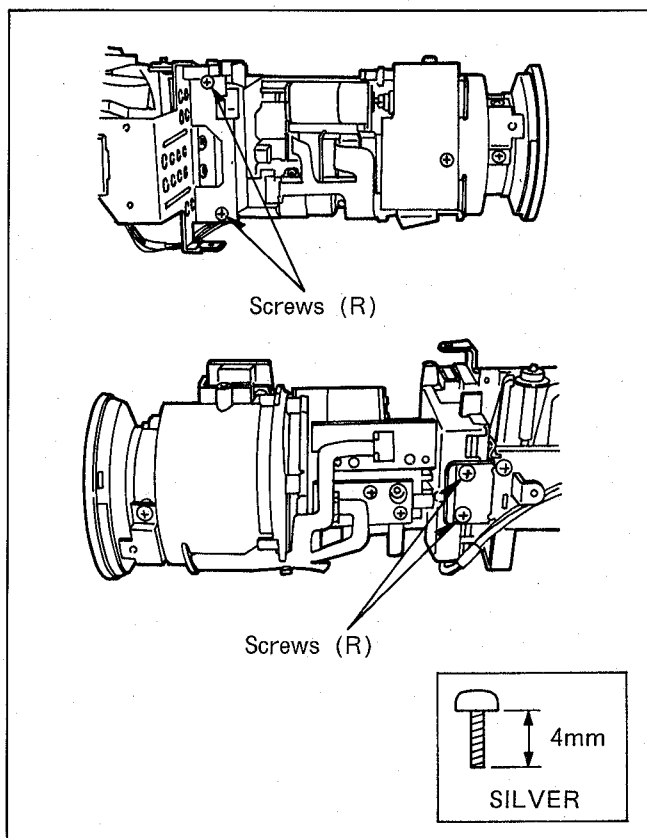


Fig. D14

2-2. REPLACEMENT OF THE CYLINDER UNIT

2-2-1. REPLACEMENT OF THE UPPER CYLINDER UNIT

Work with extremely care when removing or replacing the upper cylinder unit.
Do not touch the Video head during servicing.

1. Remove 2 screws as shown below.
2. Unsolder 18 soldered portions indicated by arrows on the Circuit Board.
3. Remove the upper cylinder Unit by lifting it upward.

Note:

Soldered portion can be easily removed by using solder sucking wire, etc.

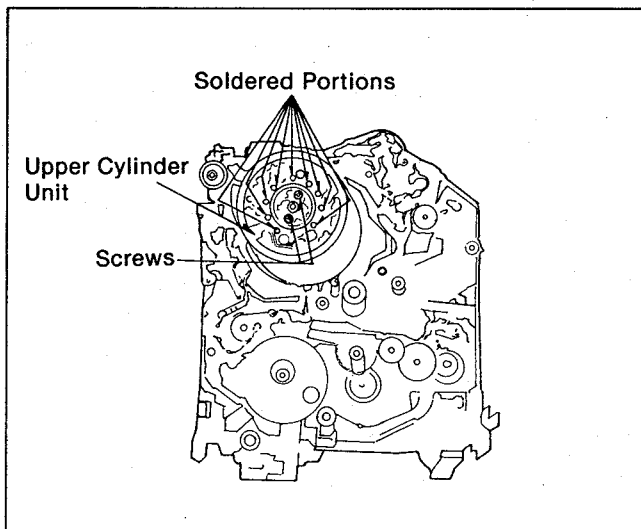


Fig. D15

4. The upper cylinder unit can be reinstalled by reversing the removal procedure, however, when the upper cylinder is reinstalling, be extremely carefull so that white portion of circuit Board of the upper cylinder correctly matches the white portion of the bottom cylinder.

Note:

- 1) If the upper Cylinder Unit is reversely installed, no colour will appear when playing back a pre-recorded tape.

2-2-2. REPLACEMENT OF DD CYLINDER UNIT

1. Remove the 3 screws and connector.
2. Take out DD cylinder carefully.

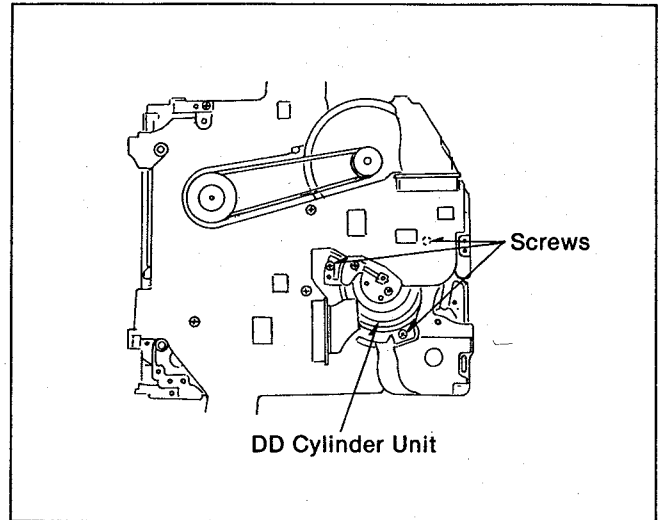


Fig. D16

Note:

Since there is very little clearance between the D.D. cylinder unit and the chassis, remove the DD cylinder unit carefully.

3. Reinstall the new D.D cylinder Unit, tighten the 3 screws and reconnect the connector.

Note:

- (1) Gently rub the video head in direction of tape travel with Head cleaning stick.
- (2) After replacement, confirm the performance.
If any further maintenance is required, perform "TAPE INTER-CHANGE ABILITY ADJUSTMENT".

2-3. REPLACEMENT AND ADJUSTMENT PROCEDURES

2-3-1. DISASSEMBLY PROCEDURES OF ZOOM MOTOR AND ZOOM

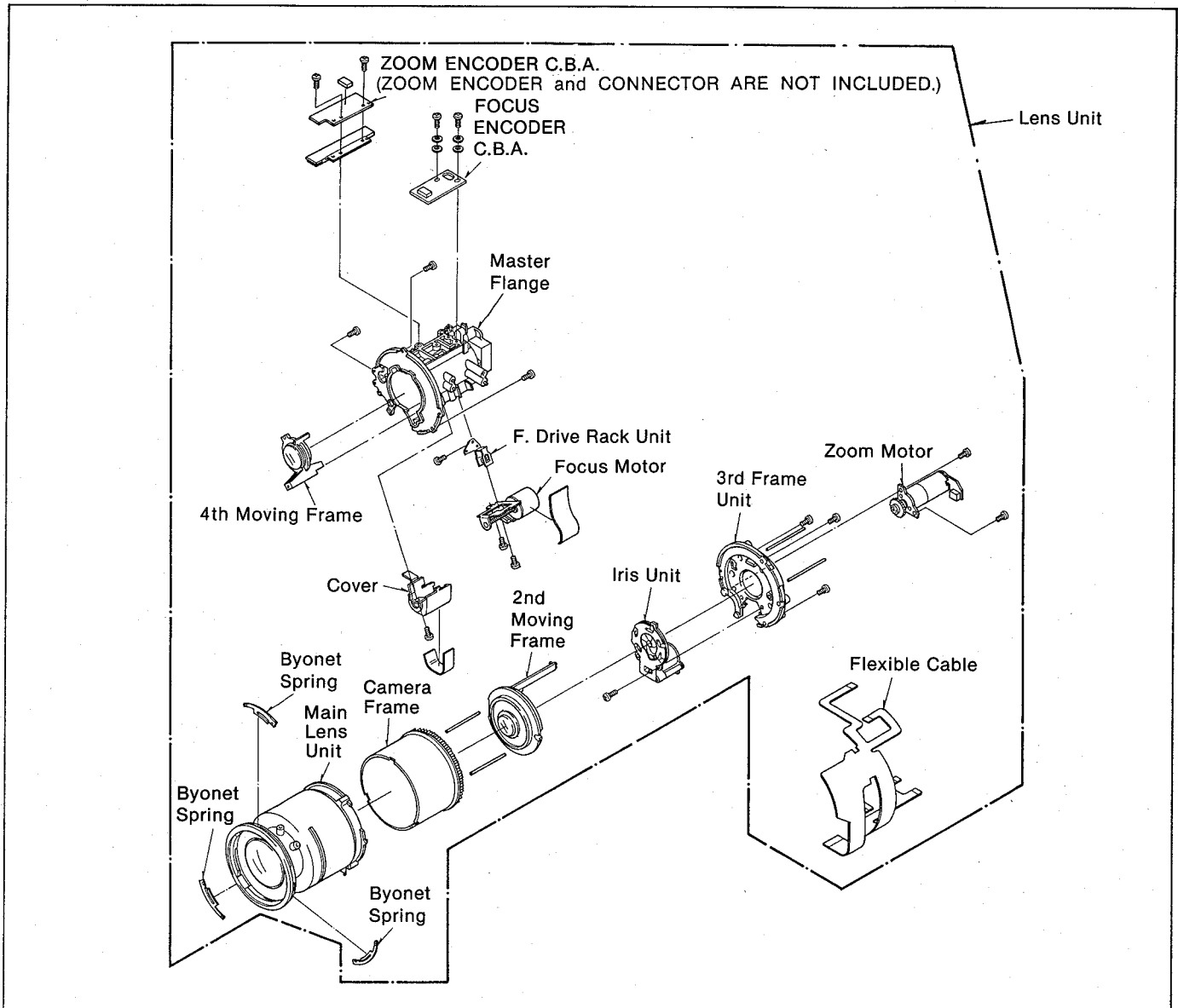


Fig. C1

- (1). Remove the Camera unit from the S-VHS-C Movie.
- (2). Remove the C.B.A. (Camera Process, Auto Focus, Sensor).
- (3). Loosen 2-Screw and remove the Zoom Motor Unit.
- (4). Loosen 3-Screw and remove the Camera Frame, 2ND Moving Frame (Zoom Lens) and the Zoom Guide pole as shown Fig.C2, Fig.C3.

NOTE: Special oil sprayed at the surface of Guide Pole and Camera Frame. Therefore handling of Guide Pole and Camera Frame Requires care.

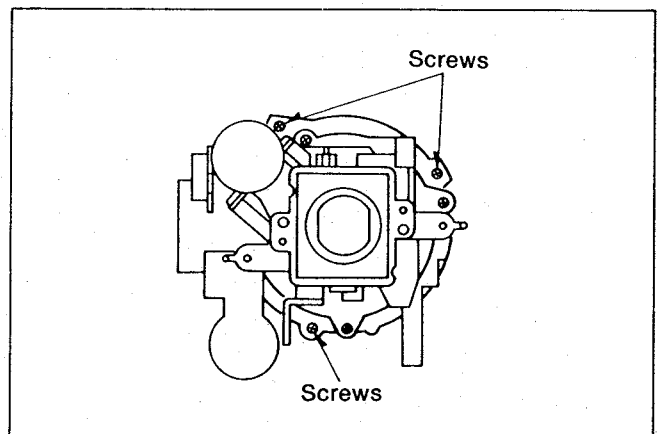


Fig. C2

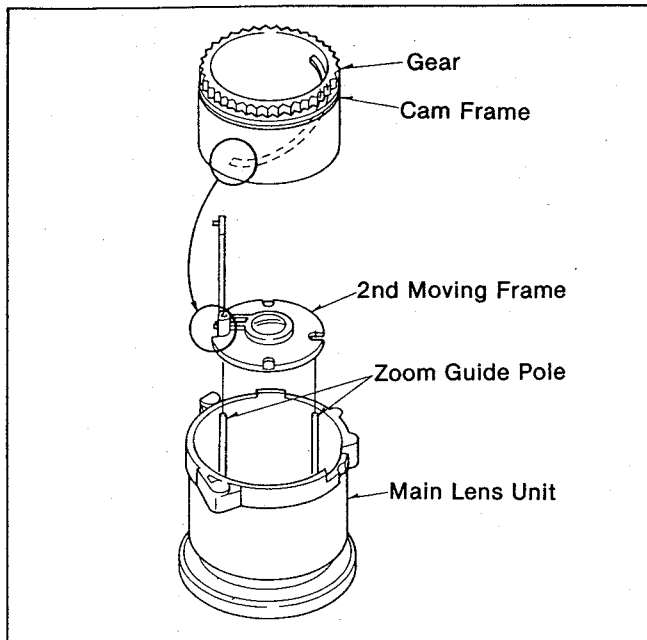


Fig. C3

2-3-2. ASSEMBLY PROCEDURES OF ZOOM LENS.

- (1). At first, Set the Lens unit that surface of look down as shown in Fig. C3.
- (2). Insert the Guide Pole to Main lens Units.
- (3). Insert the 2Nd Moving Frame (Zoom Lens) to Guide.
- (4). Insert the Cam Frame to Main Lens Unit so that the end of ditch on Cam-Frame meet to cutting edge of the 2ND Moving Frame (Zoom Lens). After that fix the pole Guide by finger, and then turn the Gear on the Cam Flame in both direction to confirm the smooth movement of 2ND Moving Frame (Zoom Lens).
- (5). Insert the 3rd unit then tighten the 3-screws.

2-3-3. DISSASSEMBLY PROCEDURES OF FOCUS MOTOR AND 4TH MOVING FRAME (FOCUS LENS).

- (1). Loosen 3-Screws and remove the Focus Motor as shown in Fig. C4.

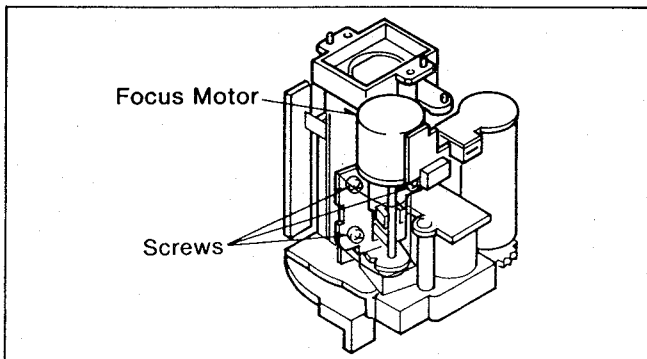


Fig. C4

- (2). Set the unit lengthwise that surface of Lens look down and remove the 3 screws as shown in Fig. C5.

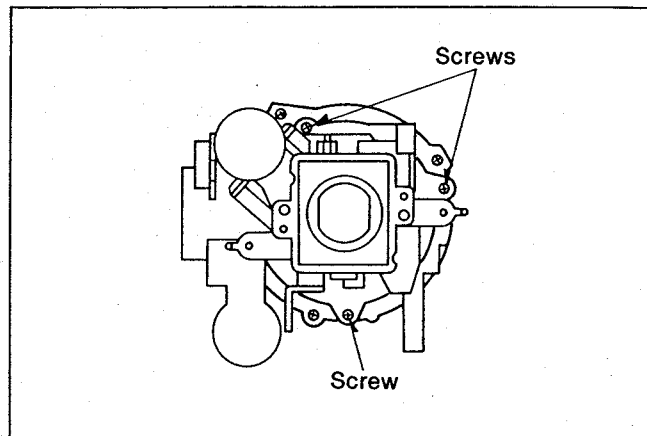


Fig. C5

- (3). Pull off the hook on the Zoom Encoder. And Pull up the Lens to right as shown in Fig C6.

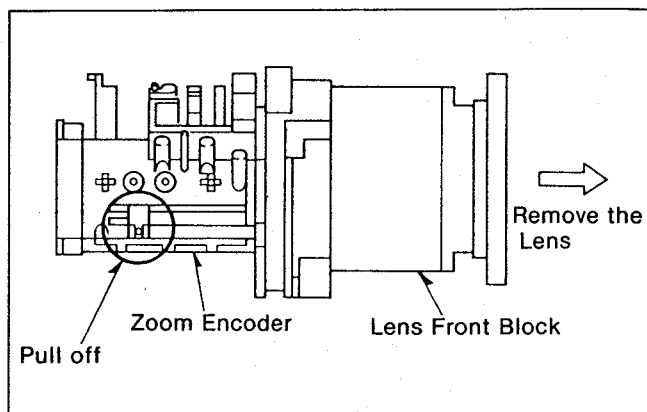


Fig. C6

- (4). Remove the 4TH Moving Frame unit (Focus Lens).

2-3-4. ASSEMBLY PROCEDURES OF FOCUS LENS.

- (1). Insert the 4TH Moving Frame unit so that insert the Zoom Guide Pole and Focus Guide Pole as shown in Fig. C6.

2-4. ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the system control circuit, through the mode select switch.

Therefore the relation between the mode select switch and cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on. If these parts are fixed improperly, the units will be unloaded or compulsory stopped.

And it will result being damaged at any mechanical or electrical parts.

2-4-1. ASSEMBLY PROCEDURES OF T-RAIL UNIT AND LOCK BASE.

- (1). Install a T-Rail Unit and Lock Base Unit as shown in Fig.M1,M2.

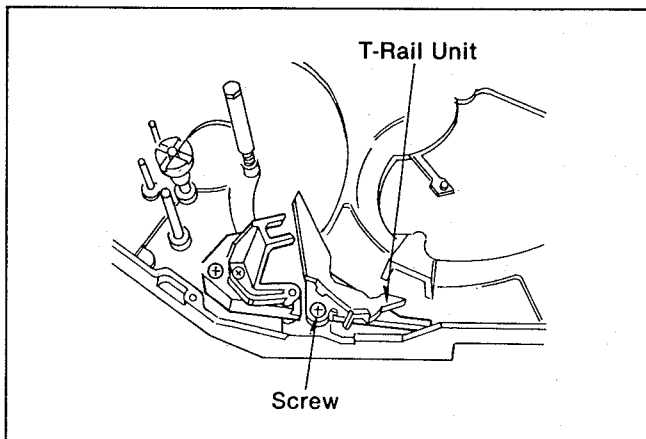


Fig. M1

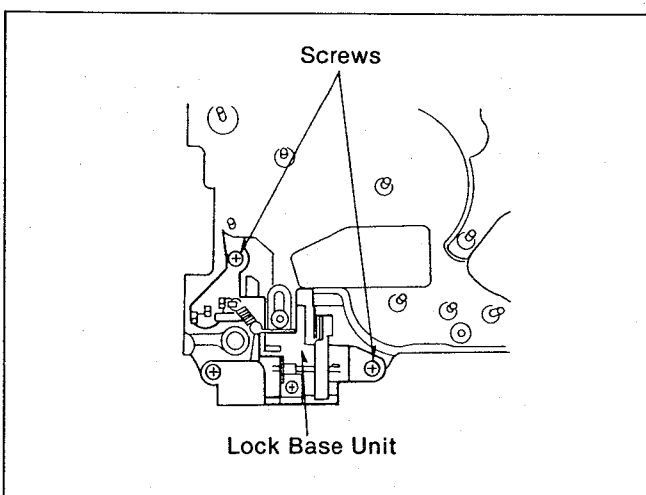


Fig. M2

2-4-2. ASSEMBLY PROCEDURES OF CAM GEAR AND ZENEBA GEAR

- (1). Install a Cam Gear so that phase mark on the Cam gear, with its point turned up, and then insert the Cut washer as shown in Fig.M3.

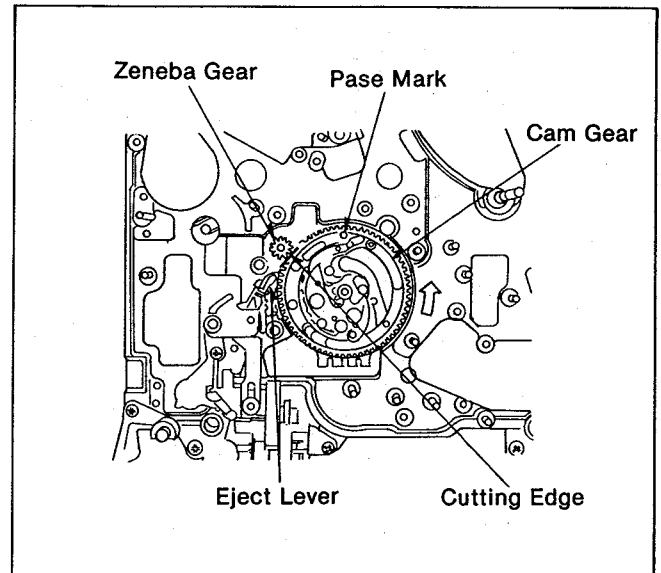


Fig. M3

NOTE : If can't install the Cam Gear, Eject Lever caught on the Cam Gear.
The Cam Gear turn to the left for free from the Eject Lever and then install a Cam Gear.

- (2). Install the Zeneba Gear so that cutting edge of the Zeneba Gear face to the Cam Gear as shown in Fig.M4.

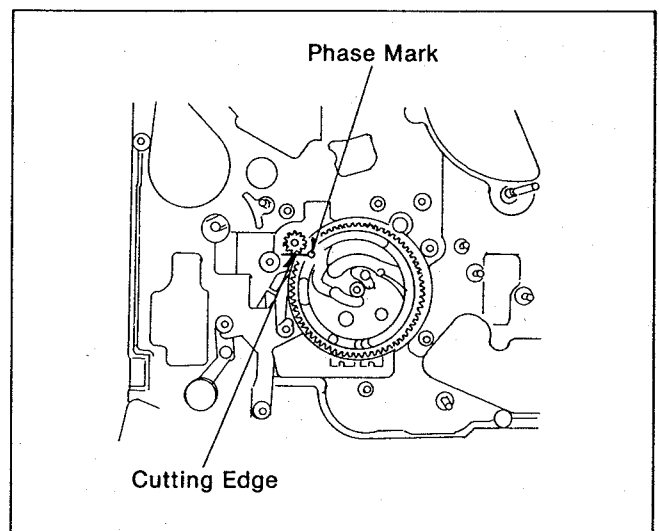


Fig. M4

NOTE : When installation of the these Gears are finished, make sure that phase mark on the Cam Gear face to the Zeneba Gear.

2-4-3. ASSEMBLY PROCEDURES OF S-BOARD UNIT AND GEAR

(1). Install the S-Board Unit as shown in Fig.M5.

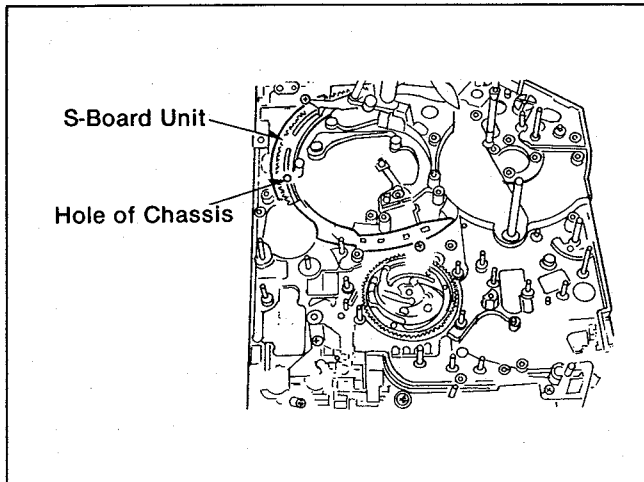


Fig. M5

NOTE 1: S-Board Unit contain the S-Rack,S-Rack Guide,S-Shaft Holder Unit and S2 Roller Post unit.

NOTE 2: The hole of S-Rack is exactly in line with the hole of chassis.

(2). Install the Loading Gear-S so that the hole of Loading Gear is exactly in with the hole of metal frame of Loading Gear-S Unit as shown in Fig.M6.

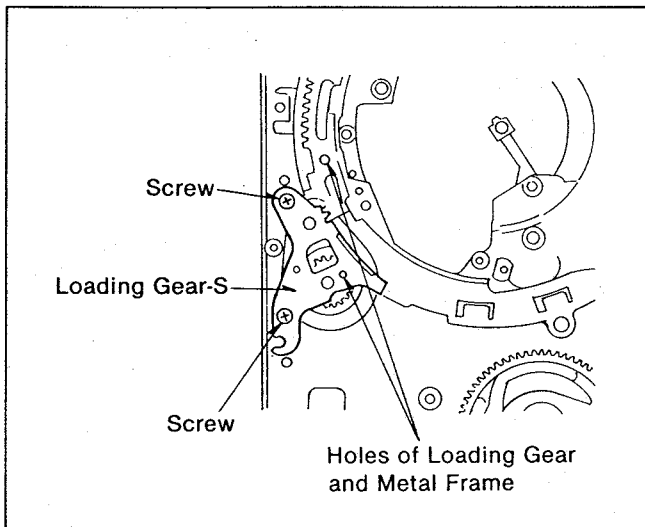


Fig. M6

2-4-4. ASSEMBLY PROCEDURES OF T-RACK GUIDE, T-RAIL, LOADING GEAR T2, LOADING GEAR T1, AND LOADING GEAR 5.

(1). Install the T-Rack Guide as shown in Fig.M7.

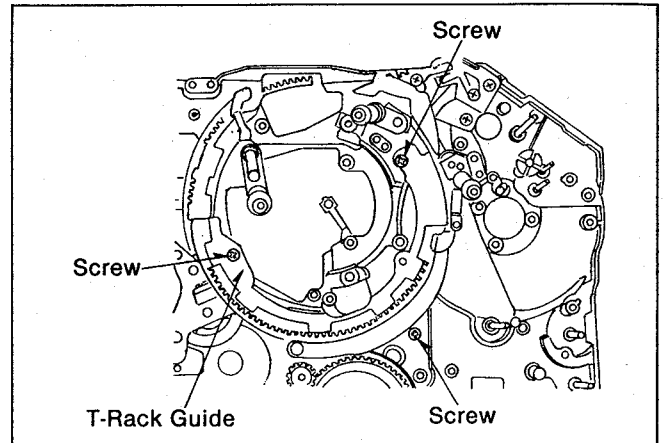


Fig. M7

(2). Install the T-Rail(R) Unit as shown in Fig.M8.

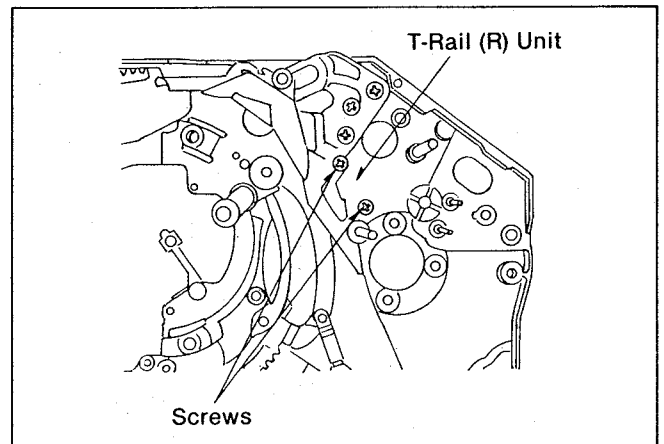


Fig. M8

(3). The phase mark on the T-Rack Guide face to the hole of Guide as shown in Fig.M9.

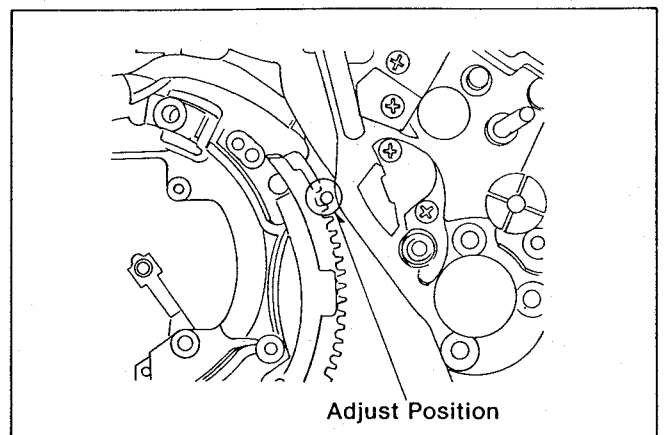


Fig. M9-1

(Expanded View of Adjustment Portion)

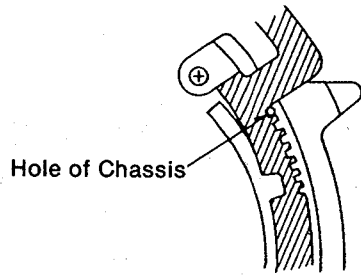


Fig. M9-2

- (4). Install the Loading Gear-T2 so that the mark on the the Loading Gear T2 is exactly in line with the mark of Loading Gear S as shown in Fig.M10,M11.
- (5). Install the Loading Gear-T1 so that the mark on the Loading Gear-T1 is exactly in line with the hole of T-Rack Guide.
- (6). Install the Loading Gear 5.
- (7). Insert the Cut Washer to each Loading Gear when phase of each gears are collect.

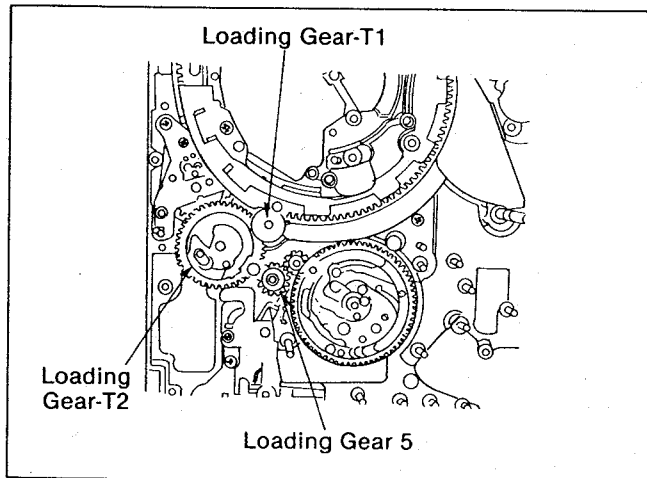


Fig. M10

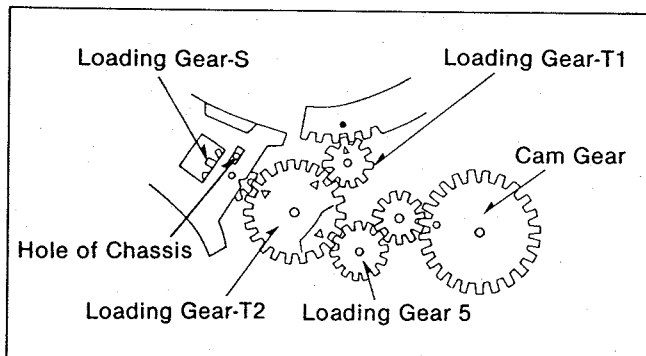


Fig. M11

2-4-5. ASSEMBLY PROCEDURES OF BAND GUIDE AND S-RAIL UNIT.

- (1). Install the Band Guide and then insert the Cut Washer as shown in Fig.M12.

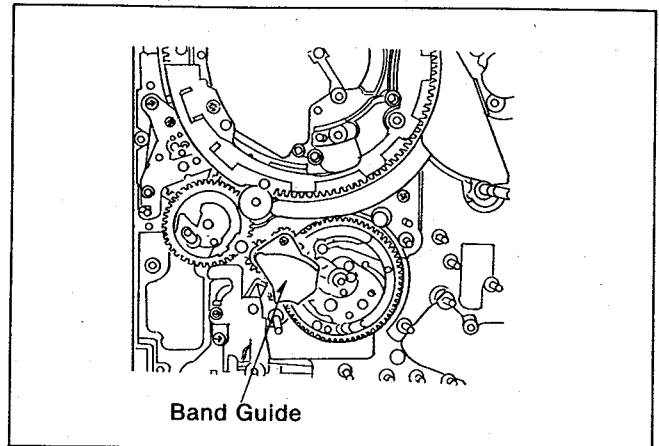


Fig. M12

- (2). Install the S-Rail Unit and then tighten the 3-Screws as shown in Fig.M13.

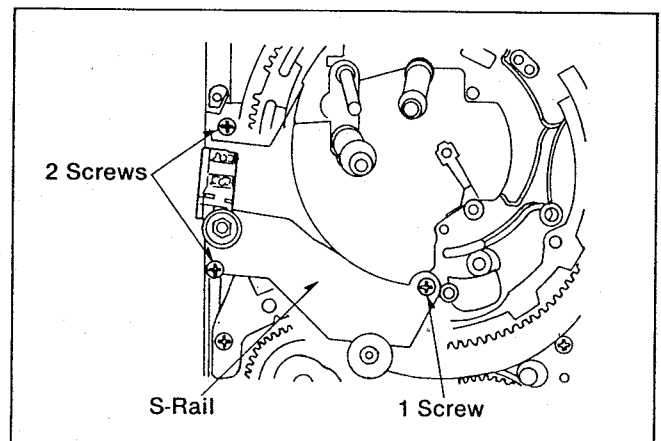


Fig. M13

2-4-6. ASSEMBLY PROCEDURES OF T-RAIL AND S-TV STOPPER.

- (1). Install the T-Rail and then tighten the 3-Screws as shown Fig.M14.

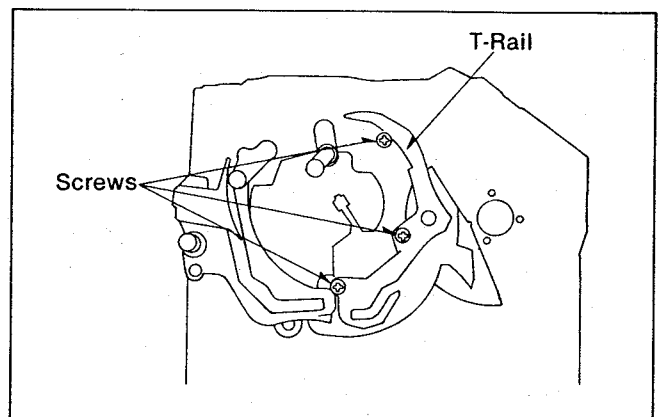


Fig. M14

- (2). When installing of T-Rail finished, turn the Cam Gear to counterclockwise that set the Roller Posts into stop position as shown in Fig.M15,M16.

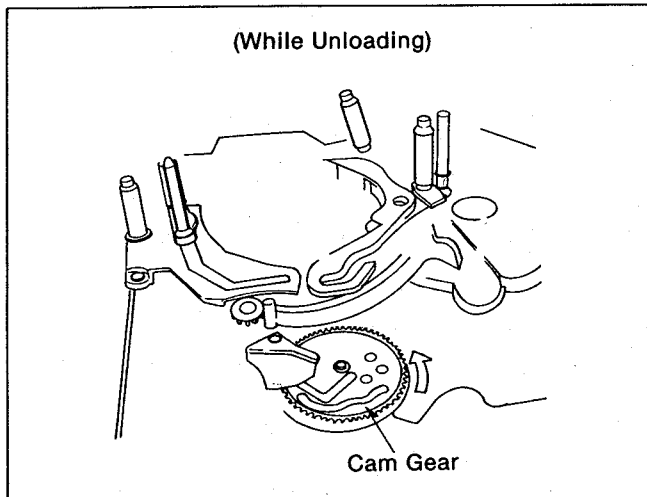


Fig. M15

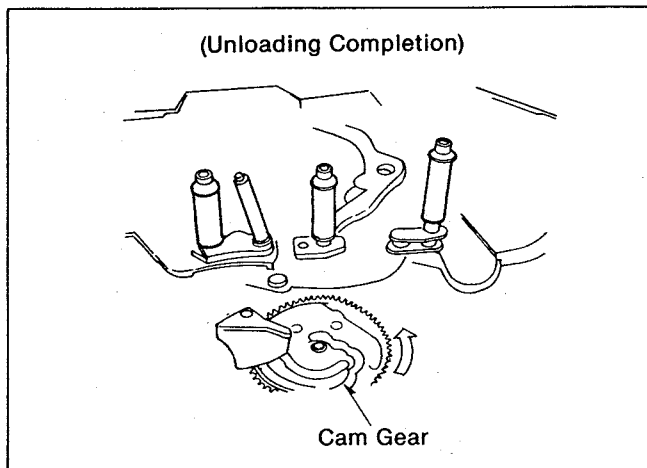


Fig. M16

NOTE :Roller posts is made up of S2 Roller post, T-Roller Post,and Roller Post.

- (3). Install the S-TV Stopper and then tighten the 2-Screws as shown in Fig.M17.

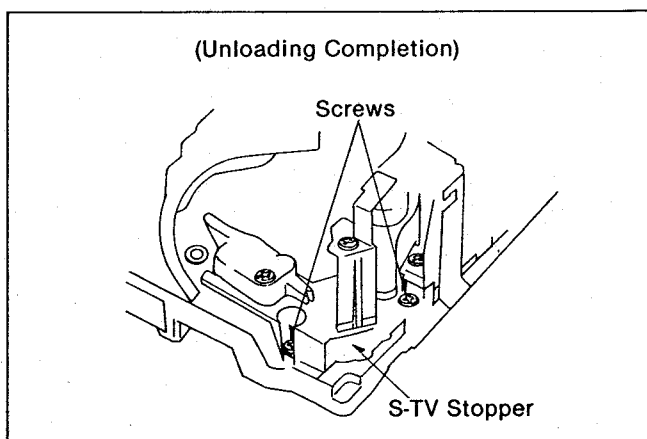


Fig. M17

NOTE :Before install of the S-TV Stopper,install the Impedance Roller unit into the S-TV stopper.

2-4-7. ASSEMBLY PROCEDURES OF SECTOR GEAR AND PINCH ARM UNIT

- (1). Install the Sector Gear so that insert the pin of Sector Gear in the ditch on the Cam Gear.
And insert the Pin to the Sector Gear from the Mechanism chassis as shown in Fig.M18.

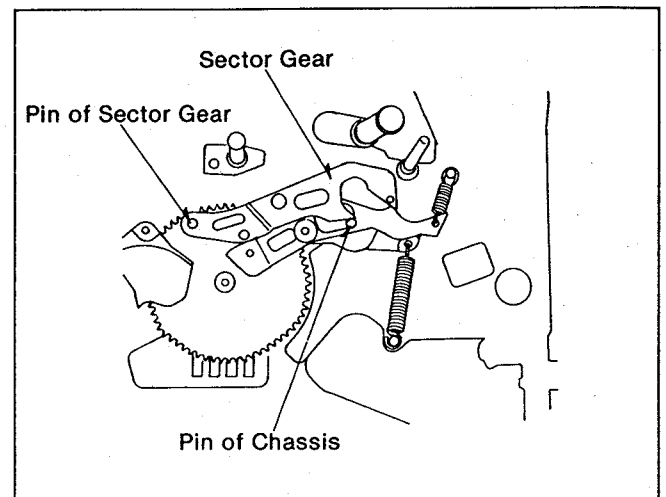


Fig. M18

- (2). When the installing of the Sector Gear is finished, Turn the Cam Gear to clockwise that set the Mechanism to play position (loading end) as shown in Fig.M19.

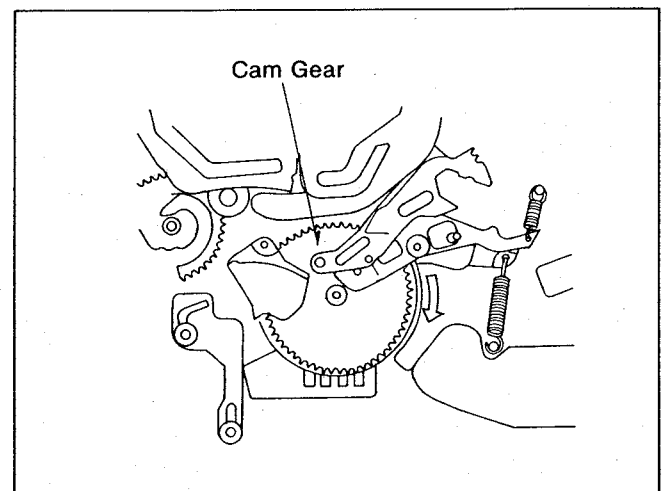


Fig. M19

- (3). Install the Pinch Arm Unit, and then insert the E-Ring as shown in Fig.M20,M21.

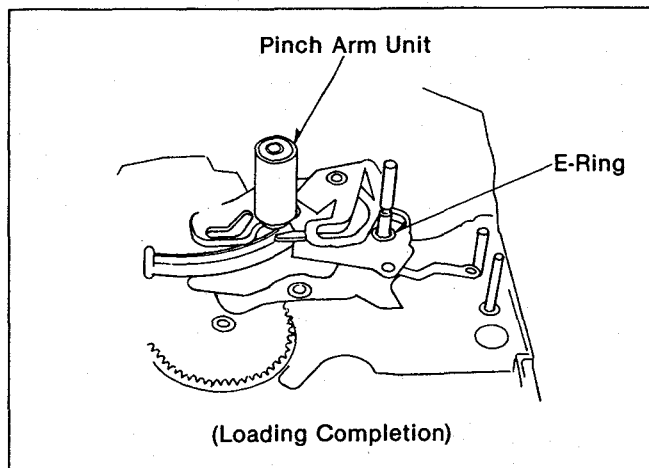


Fig. M20

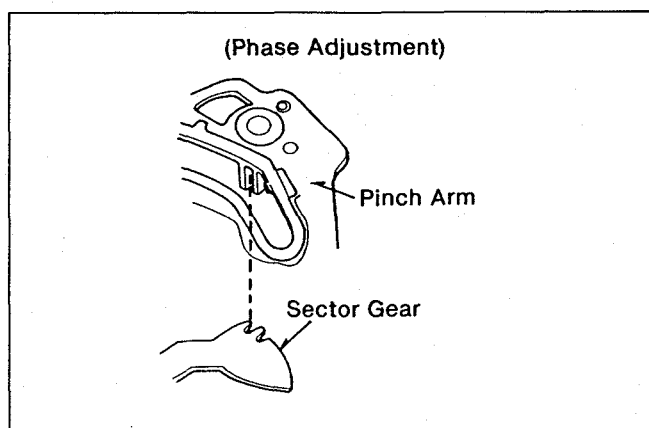


Fig. M21

- (4). Insert the T1-returner Spring so that insert a hooked end(short side) in the hole of the Pinch Arm Base as shown in Fig.M22.

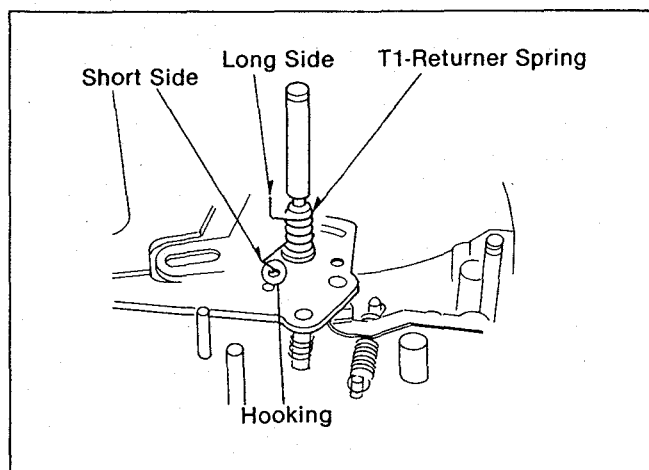


Fig. M22

- (5). Make sure of up side of T1-Returner, after that install the T1-Returner. Then insert hooked end(long side) of T1-Returner Spring in the hole of T1-Returner. Then, turn the T1-Returner to clockwise. Finally, insert the E- ring as shown in Fig. M23.

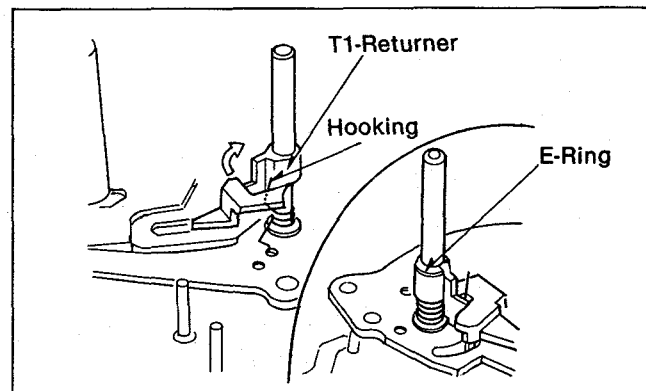


Fig. M23

- (6). Insert the Tape Opener Spring, and then fix the Tape Opener as shown in Fig.M24.

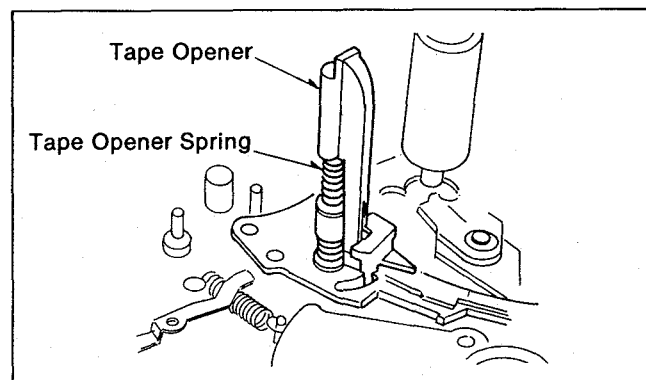


Fig. M24

2-4-8. ASSEMBLY PROCEDURES OF T-LUTCH GEAR AND DRIVE GEAR.

- (1). Turn the Cam Gear to counterclockwise that set the Mechanism to stop position(unloading end). as shown in Fig.M25.

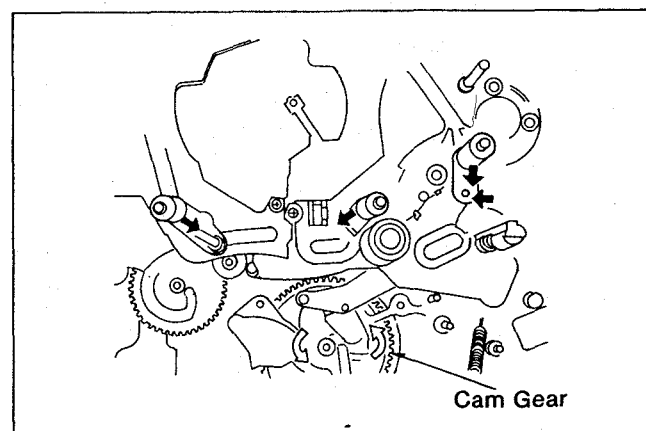


Fig. M25

- (2). Install the T-Clutch gear and then insert the Cut Washer, after that install the Drive Gear D and Drive Gear C, Drive Gear A.

And then insert the Cut Washer to the each Drive Gears as shown in Fig.M26.

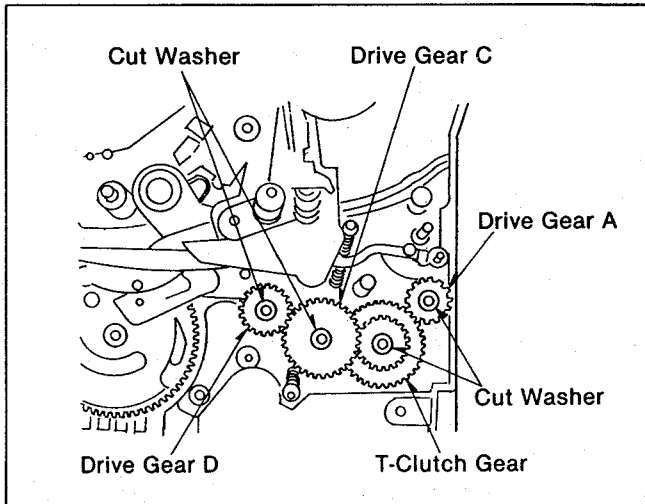


Fig.M26

2-4-9. ASSEMBLY PROCEDURES OF LOADING MOTOR AND LOADING GEAR 2, 3, 4.

- (1). Install the Loading Motor Unit and tighten the 2 Screws as shown in Fig.M27.
- (2). Install the Loading Gear 4 as shown in Fig. M27.
- (3). Insert the washer and then install the Loading Gear 2.
- (4). Insert the washer, then install the loading Gear 3.

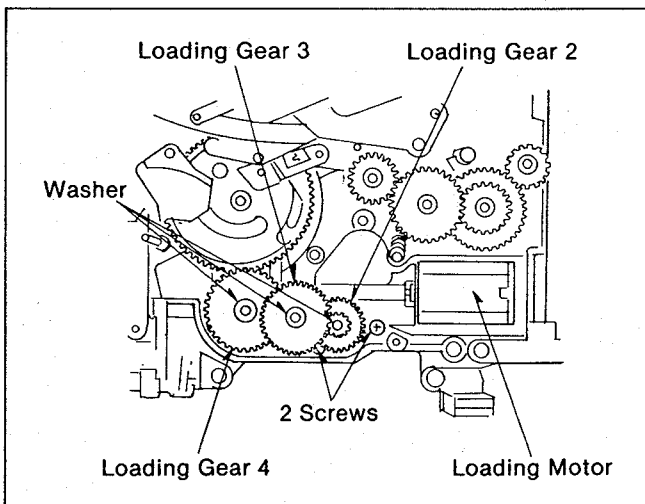


Fig. M27

NOTE : Up side of Loading Gear 4 has rib on inside circle.

2-4-10. ASSEMBLY PROCEDURES OF PULLEY PLATE UNIT AND PULLEY.

- (1). Install the Pulley Plate and then tighten the 2 Screws as shown in Fig.M28.

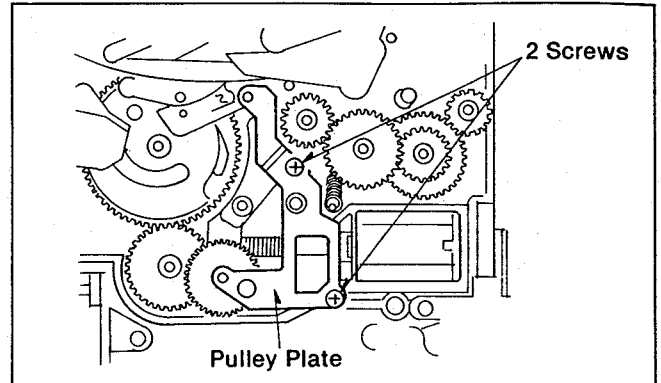


Fig. M28

- (2). Insert the Washer and the pulley from reverse side of chassis, after that install the pulley cap as shown in Fig.M29.

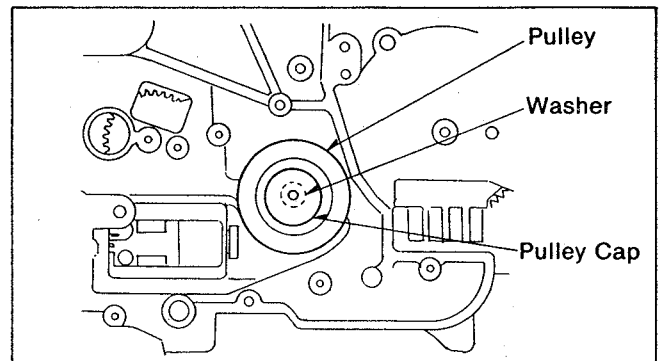


Fig. M29

2-4-11. ASSEMBLY PROCEDURES OF CORRECTOR DRIVE ARM UNIT AND CORRECTOR A, CORRECTOR C.

- (1). Insert the washer to point c and install the Corrector Drive Arm. And then insert the Cut Washer as shown in Fig.M30.

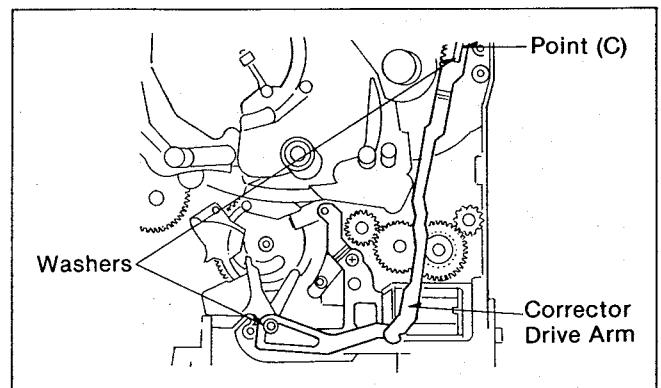


Fig. M30

- (2). Install the Corrector A so that the first tip of Corrector Drive Arm comes to first tip of Corrector A.
After that set a spring in the Corrector A.
And then insert the Cut Washer to mount it as shown in Fig. M31, Fig. M32.

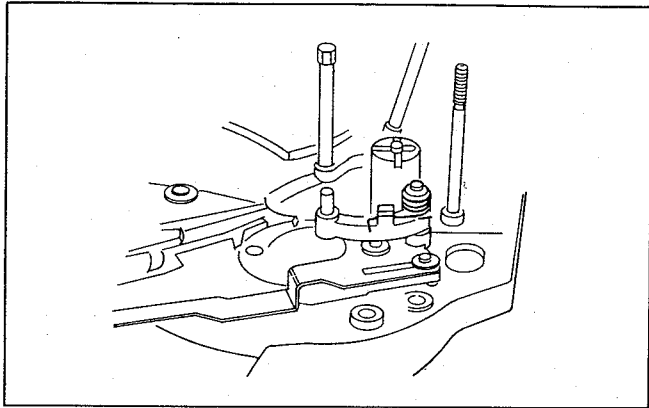


Fig. M31

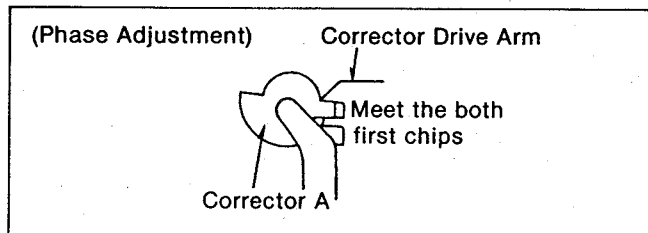


Fig. M32

- (3). Install the Corrector C and set a Spring in the Corrector C.
After that insert the Cut Washer to mount it as shown in Fig. M33.

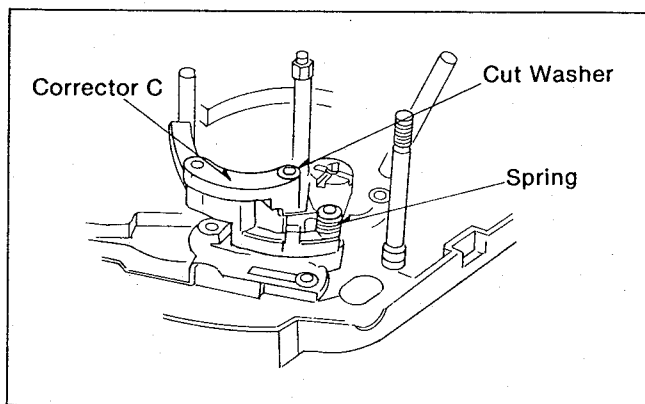


Fig. M33

2-4-12. ASSEMBLY PROCEDURES OF CENTER GEAR AND T5 ARM

- (1). Insert the Washer and then install the Center Gear.
After that insert the Cut Washer to mount it as shown in Fig. M34.

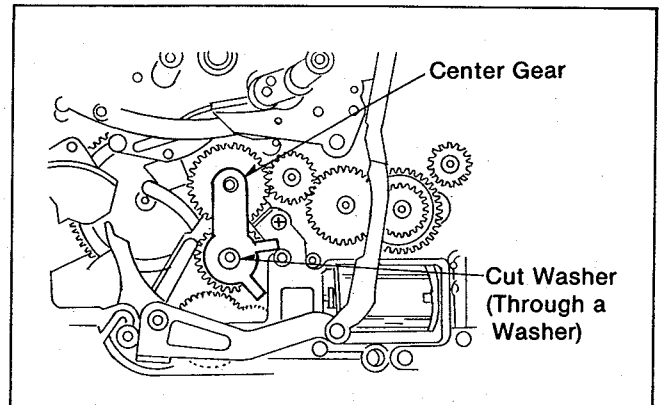


Fig. M34

- (2). Insert the T5 Arm Spring and then install the T5 Arm.
The T5 Arm connect to the Center Gear.
After that insert the E Ring to mount it.

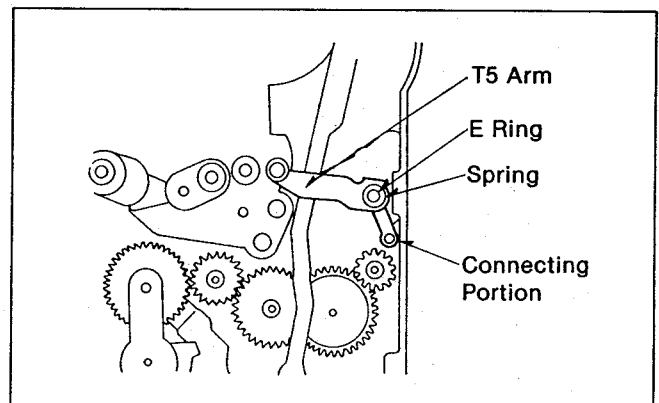


Fig. M35

2-4-13. ASSEMBLY PROCEDURES OF TENSION REGULATOR UNIT AND SUPPLY REEL TABLE.

- (1). Insert the Washer and then install the Tension Regulator Unit so that the Tension Band Arm of Tension Regulator Unit connect to the Loading Gear.
After that insert the Cut Washer as shown in Fig. M36.

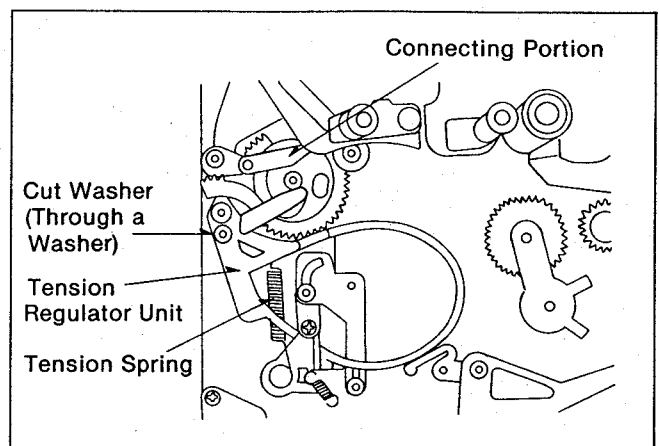


Fig. M36

- (2). Set the Tension Spring in the Lock Base Unit.
- (3). Insert the Washer and then install the Tension Arm so that make sure of phase between the Tension Arm and Tension Band as shown in Fig. M37.
After that insert the Cut Washer to mount it.

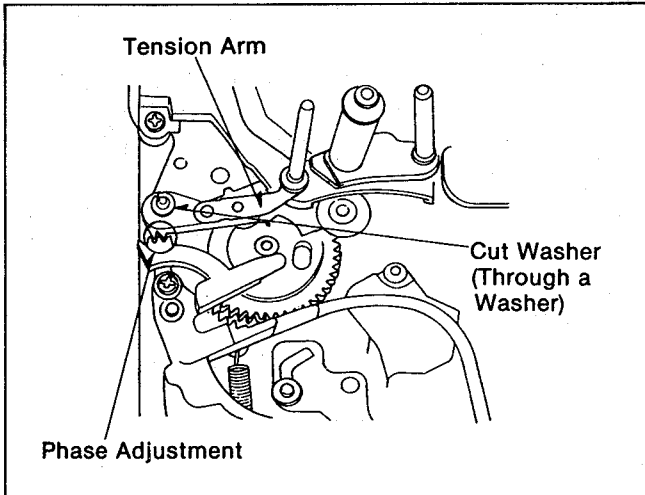


Fig. M37

- (4). Insert the Washer and then install the Supply Reel Table, after that insert the Cut Washer to mount it.

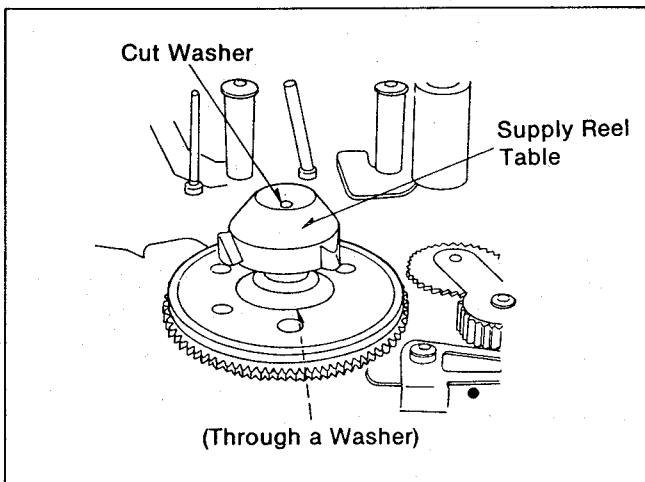


Fig. M38

2-4-14. ASSEMBLY PROCEDURES OF A/C HEAD AND CAPSTAN MOTOR UNIT

- (1). Install the A/C Head Spring and the A/C Head.
- (2). Tighten the height Adjustment Nut for A/C Head.

NOTE: Specification of Height Adjustment of A/C head is as same as interchangeability adjustment.

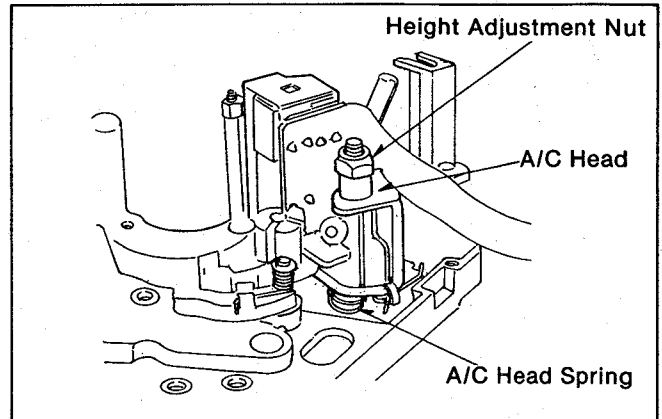


Fig. M39

- (3). Install the Capstan Motor and the tighten the 3 screws as shown Fig. M40.

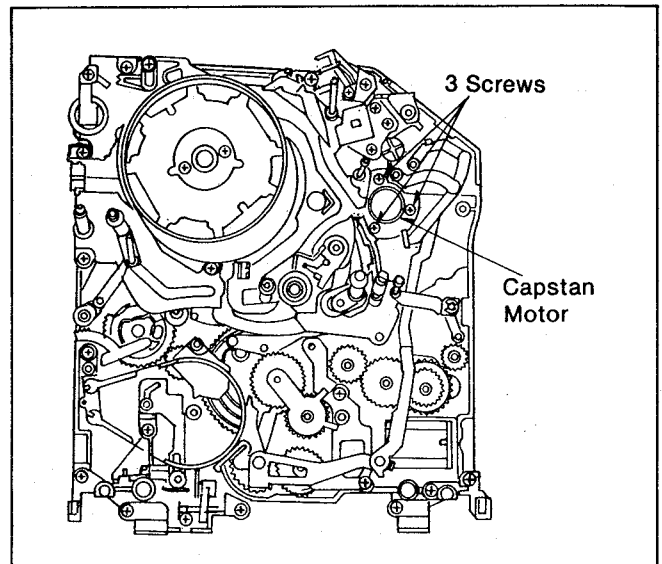


Fig. M40

2-4-15. ASSEMBLY PROCEDURES OF CYLINDER UNIT

- (1). Install the Cylinder unit from the front side, and then tighten the 3-Screws as shown Fig. M41.

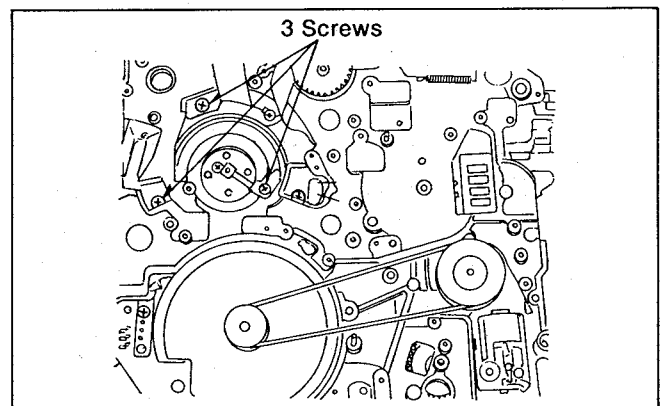


Fig. M41

2-5. INTERCHANGEABILITY ADJUSTMENT

2-5-1. ADJUSTMENT OF BACK TENSION

*Equipment Required.

Tension meter
Alignment tape (VFMS0002H60)
Specification 17+-2g

- (1) Remove the Impedance Roller.
- (2) Insert the cassette tape and playback the tape.
- (3) Insert the tension Meter to Mechanism as shown Fig.T1.

If Back tension is high, spring position change to a,
If Back tension is Low, spring position change to c as shown Fig. T2

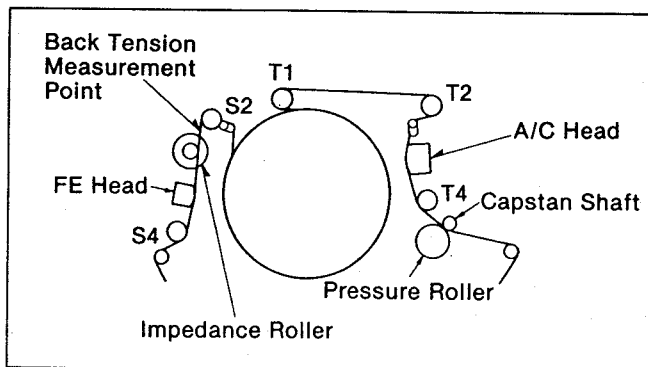


Fig.T1 CYLINDER S1 POST S2 POST BACK TENSION MEASUREMENT POINT. FE HEAD S-REEL TABLE

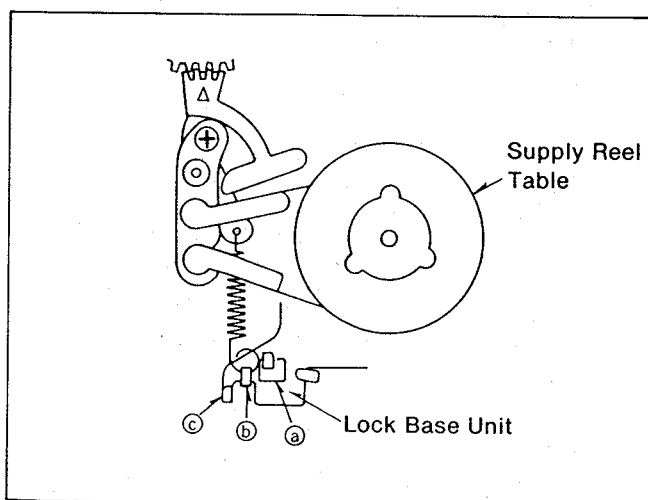


Fig.T2 S-PEEL TABLE LOCK BASE UNIT A,B,C,

- (4) After check the Back tension, Install the Impedance Roller.

2-5-2. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height adjustment of S4 Post, T4 POST, T5 Post specification.

S4 Post: 17.125+-0.025mm

T5 Post: 17.175+-0.025mm

T4 Post: 17.175+-0.025mm

- (1) For adjustment S4 Post height, turn 4mm Nut (A) Slightly in either direction as necessary to the correct clearance between the upper edge of lower tape guide on S1 Post and lower portion of Mecha chassis Fig. T3 4mm Nut A. upper edge of the Lower tape guide.

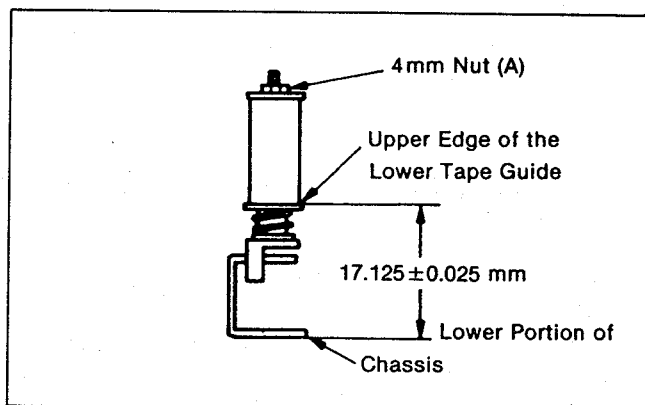


Fig. T3

Confirmation of Tape Travel

- (1) Playback a cassette tape and confirm that the tape travels without curling at upper and lower guides on posts T4 and T2, S4, S2.

Fig. T4.

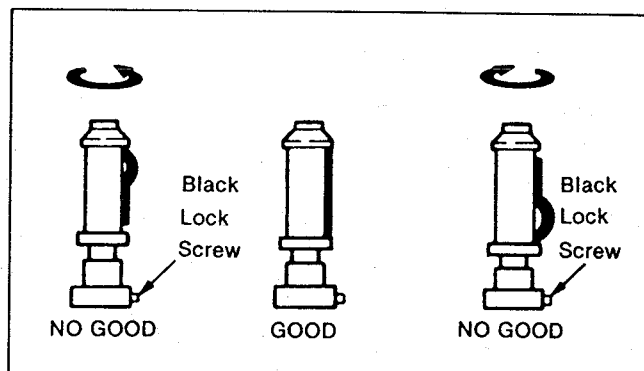


Fig. T4

- (2) If curling is apparent adjust the height of posts by turning the Top of post with Hex Wrench.

Note:

Before turning S2 and T1, slightly loosen the Black Lock screw using the Screw driver

2-5-3. TAPE INTERCHANGEABILITY ADJUSTMENT

NOTE:

- 1) To perform these adjustment/confirmation procedures make sure that the Tracking control is set in fixed position by pushing both of Tracking Control up/Down Switches at same time.
- 2) Before these adjustment/confirmation procedures, remove the cassette protective tape cover from a cassette tape or the Alignment tape (VFMS0002H6C).

*Equipment Required
Dual Trace Oscilloscope
Alignment tape (VFMS0002H6C)

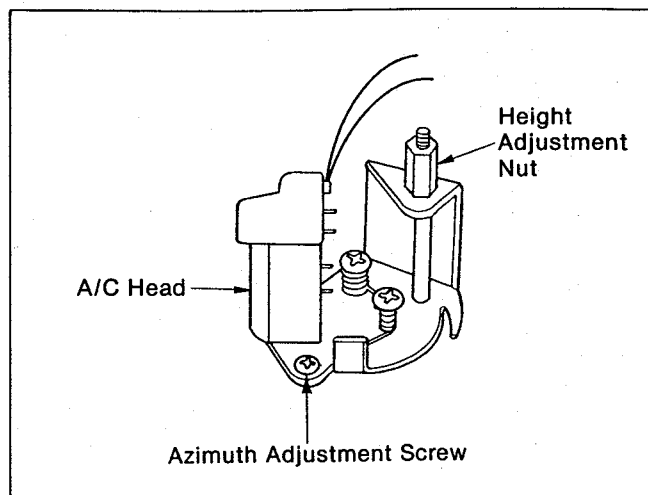


Fig. T6

2-5-4. CONFIRMATION OF TAPE TRAVEL

- (1) Confirmation of A/C Head. This confirmation is required when the A/C Head or capstan Motor is replaced and for preliminary height adjustment
- (2) Looking at the lower edge of the control Head with the tape in motion, ensure that lower edge of the tape runs 0.25mm above the lower edge of control Head. If it doesn't turn the A/C Head height Adjustment Nut slightly in either direction as necessary to correct it.

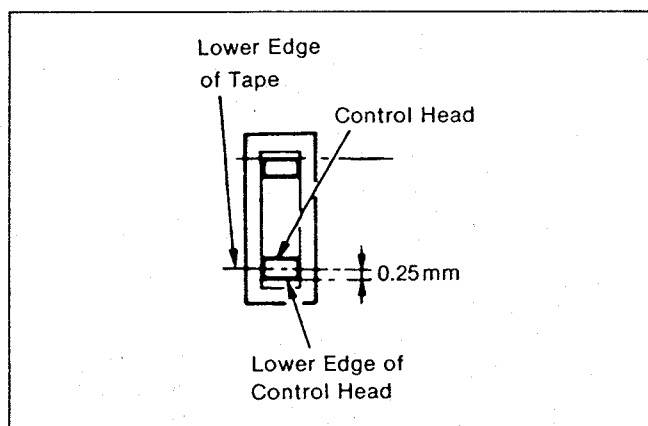


Fig. T5. Control Head 0.25mm Lower edge of control Head (Azimuth Adjust screw.) Black screw

2-5-5. AZIMUTH ADJUSTMENT OF A/C HEAD.

- (1) Connect the oscilloscope to Audio Line Output.
- (2) Play back the Monoscope portion (6KHZ, MONO) of the Alignment tape.
- (3) Adjust the Azimuth Adjustment screw on the A/C Head Base in Fig. T6 so that output level is at a maximum.

2-5-6. HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD

- (1) Set the tracking control to the fixed position by pushing both of the tracking control up/Down switches, in at the same time. Connect the oscilloscope to P5001 PIN23.
- (2) Playback the monoscope portion of the alignment tape and confirm that RF envelope appears as show Fig. T7.

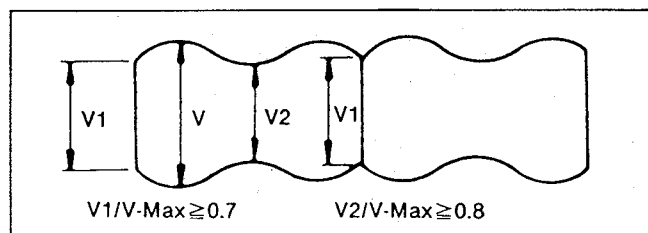


Fig. T7

- (3) If adjustment is required, slowly move the A/C Head Base back and forth using a screwdriver by Turning screwdriver by Turning screw D so that envelope is at a maximum.

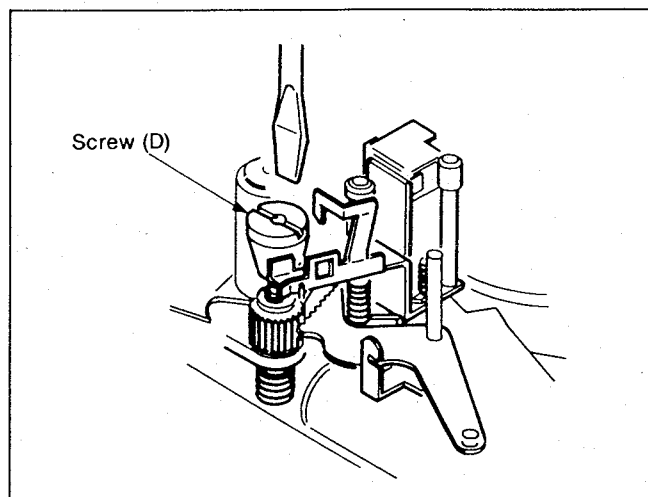


Fig. T8

- (4) Confirmation of the correct adjustment can be made by alternately pushing the Tracking control Up/Down Switches, to check the symmetry of the envelope.
- (5) Reconfirm the symmetry of the envelope. If it has changed, repeat step (B) AND (4).

2-5-7. CONFIRMATION/ADJUSTMENT OF ENVELOPE OUTPUT

- (1) Set the tracking control to the fixed position by pushing both of the tracking control Up/Down Switches, connect the Oscilloscope to P5001 PIN23.
- (2) Playback the Monoscope portion of the Alignment Tape and adjust the height of posts S2, T1 posts watching the scope display so that the envelope becomes as flat as possible. ($V1/V-MAX \geq 0.7$, $V2/V-MAX \geq 0.8$)
If Adjustment is required, Turn Top of post with Hex, wrench For adjustment of S2 and T1.

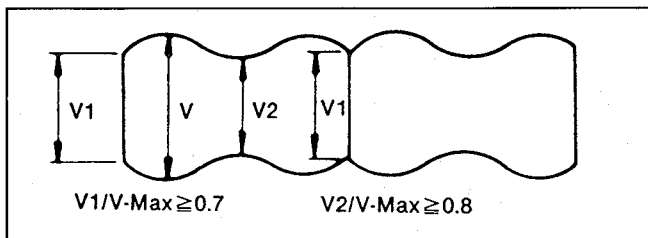


Fig. T9

- (3) When the scope display is shown in Fig. T10 adjust the height of S2 so that the wave looks like Fig. T12.

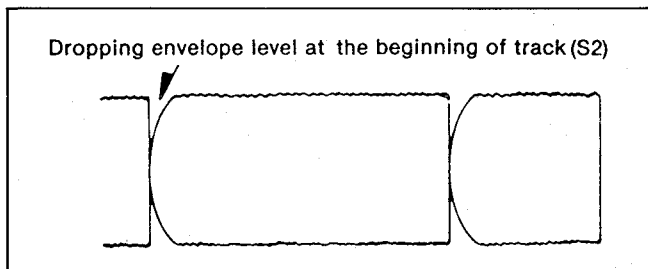


Fig. T10

- (4) When the scope display is shown in Fig. T11. Adjust the height of T1 so that the wave form looks like Fig. T12.

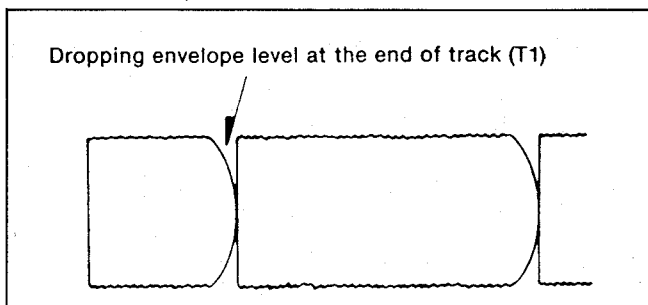


Fig. T11

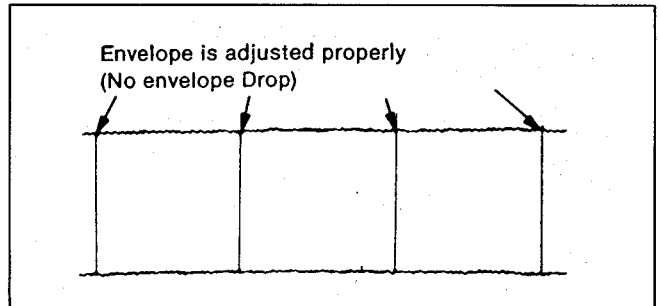


Fig. T12

2-6. ELECTRICAL ADJUSTMENT PROCEDURES

2-6-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the CAMERA section.

1. Oscilloscope
Dual Trace, 50MHz, 2mV/DIV
10 : 1 Probe
1 : 1 probe
2. Digital Volt Meter of VTVM
3. Frequency Counter
4. Vectorscope
5. Light Meter
6. Tripod
7. Colour Video Monitor
8. Lighting
140 foot-candles (1400lux). on the chart surface 3200 degrees K.
9. Reflection Chart.
* Logarithmic Gray Scale chart (Part No. : YWV2310RB99)
* Colour Chip Chart (Part No. : YWV2100RB98)
* Hunting Chart (Part No. : VFK0546)
* White Chart (Card) (Part No. : VFK0546)
* J Chart & Ball Chart (Part No. : VFK0580)
* B/W Chart (Part No. : VFK0546)
* Gray-White Chart (Part No. : VFK0546)
* Colour Bar Chart (Part No. : VFK0677)
10. Plastic Tip Driver
11. E.V.R. FIXTURE (Part No. : VFK0644)
* ROM3 (Part No : VFK0701 ROM3)
ROM3 performs the adjustment with automatic calculation for NV-MS95/MS950/G2/G200/G1/G100.

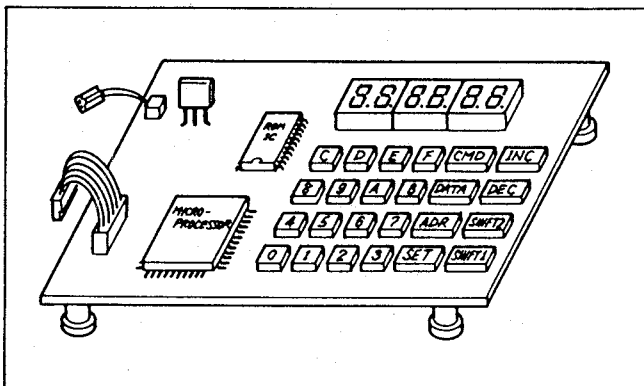


Fig. C1

12. Colour temperature Conversion filter
* C12 Filter(Part No. VFK0374 or VFK0713)
* C2 Filter(Part No. VFK0375 or VFK0716)

13. Extension Cables

- * Extension Cable(24P) (Part No.:VFK0668)
- * Extension Cable(30P) (Part No.:VFK0711)
- * Extension Cable(26P) (Part No.:VFK0709)
- * 22 PIN E.V.R. CONNECTION CABLE(22P) (Part No.:VFK0699)
- * FLAT Cable(18P) (Part No.:VFK0670)
- * Extension Cable(23P) (Part No.:VFK0710)

14. Camera Extension Cables

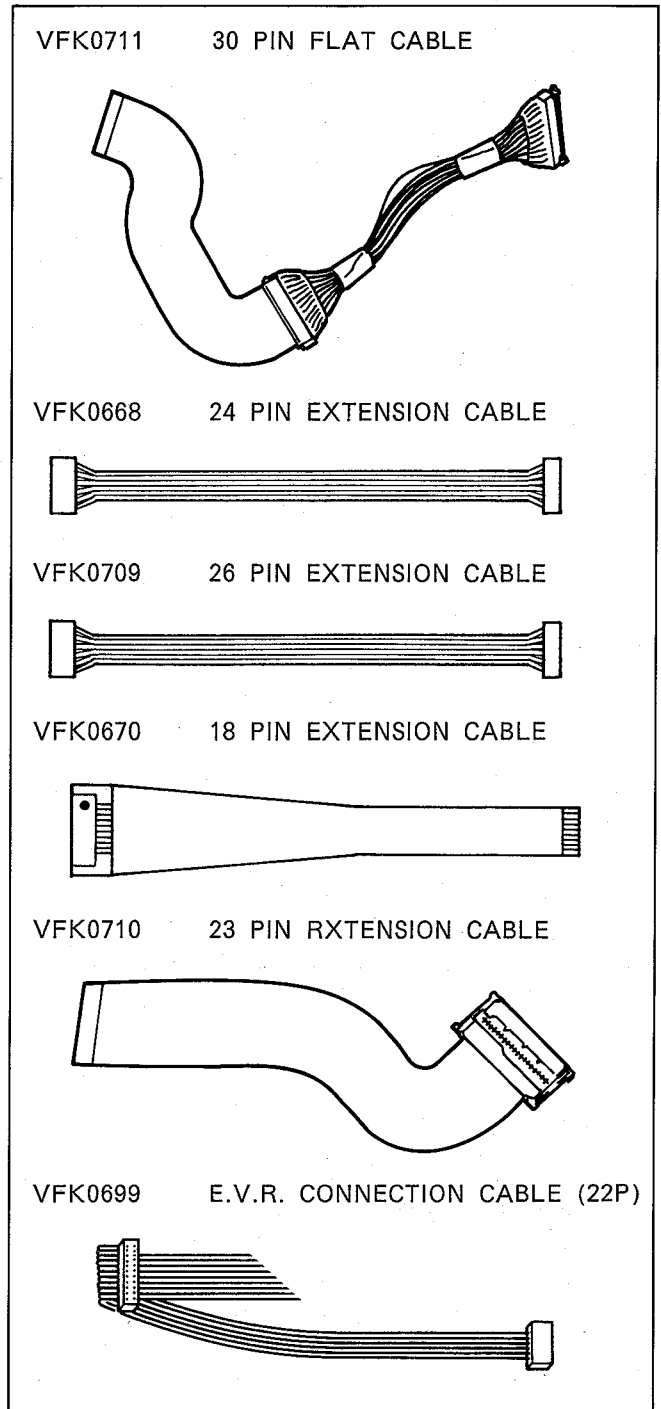


Fig. C2

E.V.R. FIXTURE

Camera Process section employs the remarkable memory IC so called E.E.P.R.O.M (Electric Erasable Programmable Read Only Memory) that fulfills the role of variable resistor in conventional camera process.

In the conventional camera process, each adjustment points were used to be adjusted by turning variable resistor as shown in Fig. C3.

In case of NV-MS95/MS950 adjustment voltage is memorized in EEPROM as 8 bit digital data.

EEPROM supplies the memorized adjustment voltage to the adjustment point through D/A converter as shown in Fig. C4.

The data in EEPROM can be electrically exchanged freely. E.V.R (Electric Variable Resistor) has been developed to exchange the 8 bit data of EEPROM in process circuit.

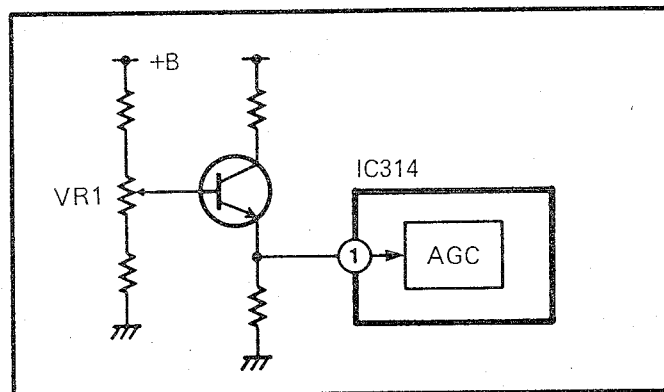
E.V.R can also communicate with RAM directly to change the each control voltage.

Normally EEPROM is having voltage data and is sent to RAM of Micro Computer where digital data is changed adjustment value.

Using E.V.R. you can change the data stored in EEPROM easily, in other words, you can adjust the camera process section. And E.V.R. can also send the data to RAM of Micro Computer directly for confirming the adjustment.

[CONVENTIONAL ADJUSTMENT]

CAMERA PROCESS C.B.A.



Control voltage is decided by variable resistor.

Fig. C3

[NEW ADJUSTMENT BY E.V.R.] EVR FIXTURE: VFK0644 (Adjustment tool)

CAMERA PROCESS C.B.A.

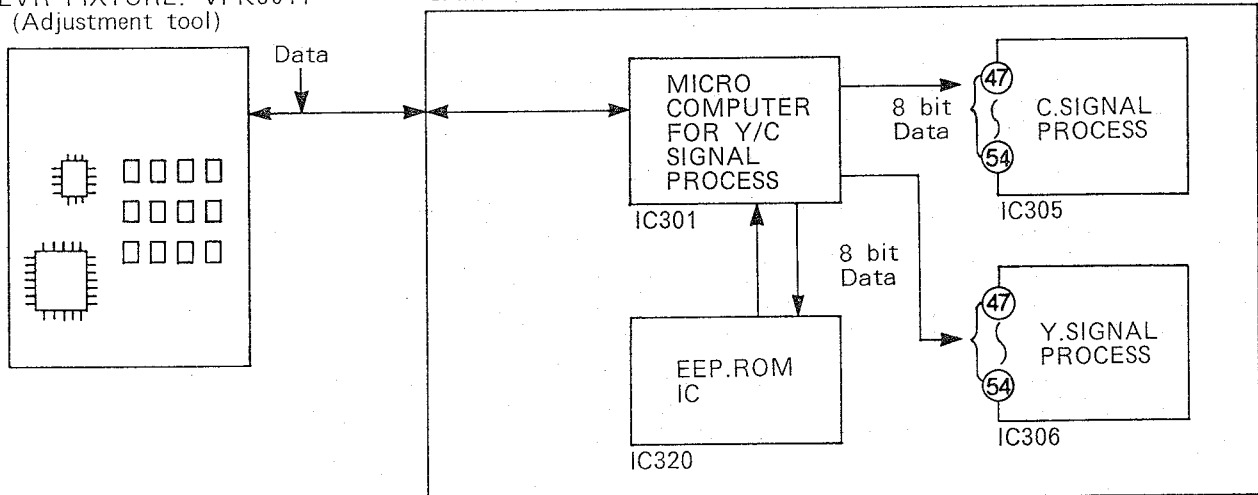
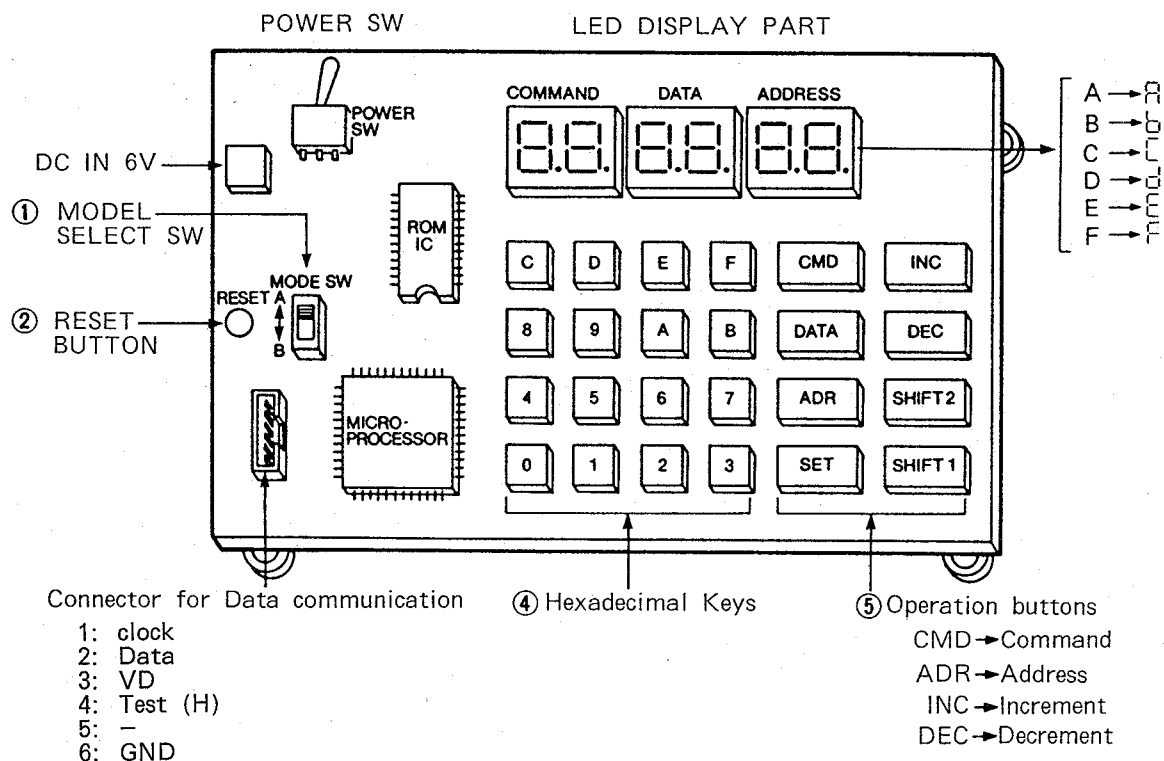


Fig. C4

Name of key



NO.	NAME	DESCRIPTION
①	MODE SW	MODEL selection switch. In case of NV-MS95/MS950, turn it to "B" side
②	RESET BUTTON	After Power is on, if operation is not stable, push this SW.
③	ROM IC	ROM IC of which Programing (to operate E.V.R) is memorized in. In the future, to cope with new camcorder servicing, this ROM IC could be replaced to new version.
④	HEXADECIMAL KEYS	Key buttons of 16 pieces (from "O" to "F"). These are used when "COMMAND", "DATA" or "ADDRESS" is set.
⑤	OPERATION BUTTONS	The buttons to operate writing, reading or setting the data.
	CMD: Command button	This is used to decide the which mode (command) between E.V.R and camcorder (for example, data writing or reading) to perform.
	DATA: Data button	For changing Data.
	ADR: Address button	To appoint the EEPROM address or D/A converter address.
	SET: Set button	To perform the appointed command (for example reading or writing).
	INC: Incliment DEC: Decliment	Increase or decrease the data one by one (+1, -1)
	SHIFT 1 button	To carry out macro operation (while pushing with hexadecimal keys) SHIFT 1 button is used. (Macro operations will be described later)
	SHIFT 2 button	To carry out macro operation(while pushing with hexadecimal keys) SHIFT 2 button is used (Macro operations will be described later.)

Fig. C5

PREPARATION

- 1) Remove both side case (R) and (L) referring disassembly method.
- 2) Connect the E.V.R. FIXTURE and measuring equipments as shown in Fig. C6.

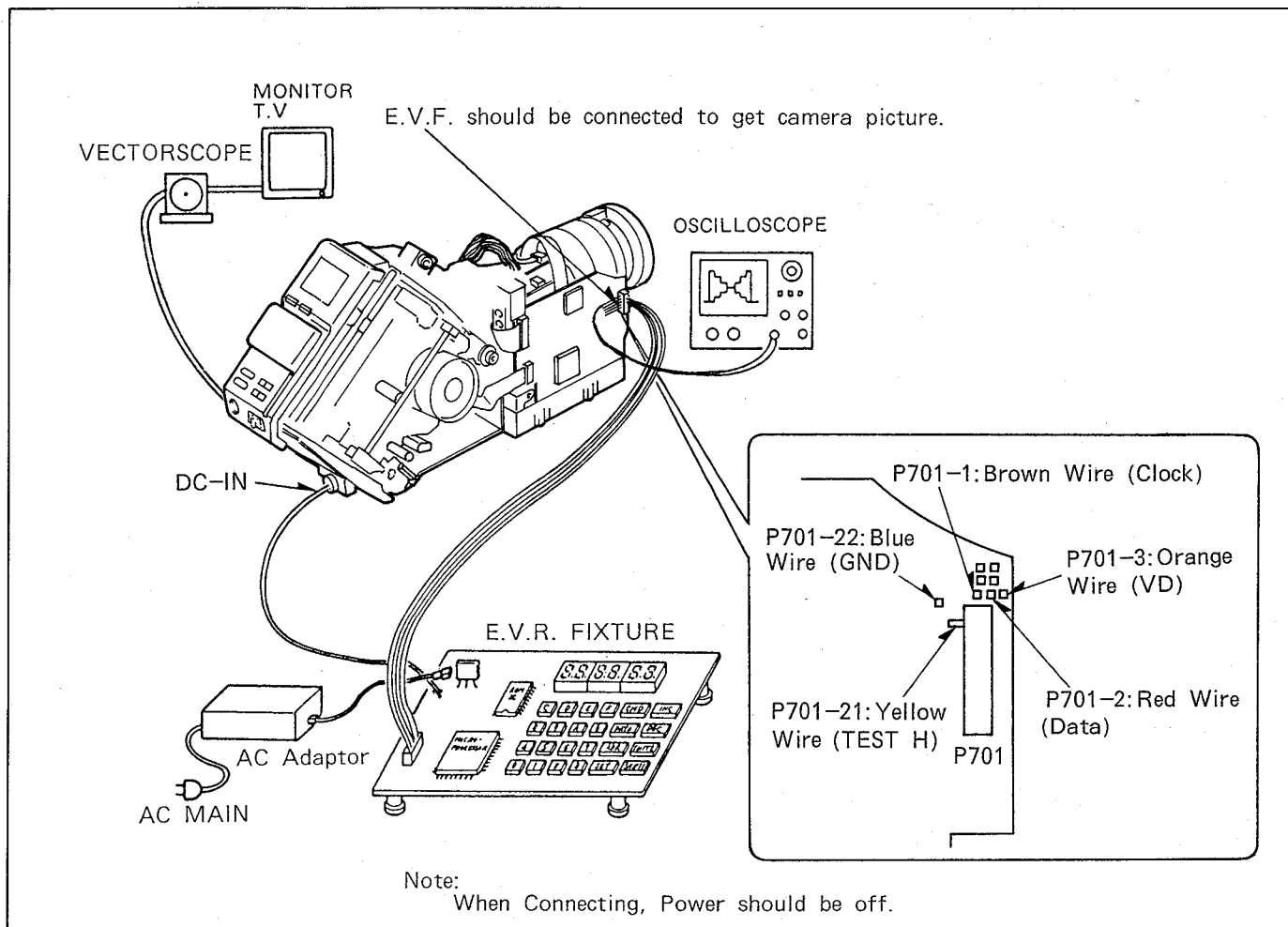


Fig. C6

- 1) Select the mode selector on E.V.R. Fixture to "B" side.
(Refer to Fig. C5)
- 2) Turn the power SW of NV-MS95/MS950 on.
- 3) Turn the power SW of E.V.R. fixture on. Then LED Display on E.V.R. Fixture indicates "08 80". If display does not indicate this, Push Reset button or confirm the connection cables between EVR and CAMERA.

(Before Adjusting How to use the E.V.R. Fixture)

- 1) How to Read out the Data which is being stored in EEPROM.
Connect the E.V.R. Fixture as shown in Fig. C6.

Result:

Adjustment value of AGC has been set for "4D". It is convenient to read out the data like this (and take memo) before writing the new data next time) even if something mistake is happened when writing the new data, you can rewrite original data.

Item	Proceduring Order	Buttons to be Pushed	LED Indication
For Example, Reading out the data of AGC Adjustment communication from camcorder to E.V.R. EEPROM → E.V.R.	1 Set the Command mode to "04", "04" is read out command. (Refer to command description)	CMD [0] [4]	LED lights up 04/80 00 Command setting
	2 Set the Address of EEPROM	ADR [4] [4]	04 80 44 Address setting of EEPROM LED lights up
	3 Read out the data Push this for 2 seconds	SET	04 09 44 data for AGC LED lights up for example

Fig. C7

2) Writing the New Data

- (1) Search and Write Procedure
(For example: CDS GAIN Adjustment).

Procedure:

1. Set the Command to "04".
2. Set the Address to "41".
3. Push the "SET" button.
4. The number which is indicated on DATA LED is a data which has been written.

confirmation:

Confirm whether data is written correctly or not.

Item	Proceduring Order	Buttons to be Pushed	LED Indication
For Example, writing the CDS GAIN adjustment data. E.V.R. → EEPROM	1 Set the command to "08".	CMD [0] [8]	Command for search mode.
	2 Set the Address of RAM to "0B" E.V.R. → RAM (communication from E.V.R. to RAM)	ADR [0] [B]	LED lights up. 08/80 06
	3 Adjustment Push "DEC" or "INC" button so that CDS GAIN at TP203 becomes 300mV±10mV	Search with INC or DEC	08 9 106 LED lights up
	4 Change the command to "02"	CMD [0] [2]	LED lights up 02/9 106 Command for Direct Writing

Fig. C8-1

Item	Proceduring Order	Buttons to be Pushed	LED Indication
	5	Set the address of EEPROM to "41"	ADR 4 1 address of EEPROM 02 9 1 4 1 LED lights up
	6	Do not change the data after adjustment	DATA 9 1 02 9 1 4 1 LED lights up
	7	Write the data	SET LED disappear 02 9 1 4 1 Push this for 2sec.

Fig. C8-2

3) Direct Writing Procedure

Item	Proceduring Order	Buttons to be Pushed	LED Indication
For Example, writing the CDS GAIN adjustment data	1	same as (2)	same as (2)
	2		
	3		
	4	Change the command to "02"	CMD 0 2 LED lights up 02/00 2 1 Command for Direct writing
	5	Set the address of EEPROM to "41"	ADR 4 1 address of EEPROM 02 00 4 1 LED lights up
	6	Set the data of best point "91"	DATA 9 1 02 9 1 4 1 LED lights up
	7	Write the data	SET LED disappear. 02 9 1 4 1 Push this for 2sec.

Fig. C9

(Description of Command)

Selecting the communication for what kind of data exchange is performed between EVR Fixture and camdorder.

Command	Communication	Contents
02	EVR Fixture → EEPROM	Writing the data to address of EEPROM. (Lower Digit)
12	EVR Fixture → EEPROM	Writing the data to address of EEPROM. (Upper Digit)
04	EEPROM → EVR Fixture	Reading out the data of EEPROM. (Lower Digit)
14	EEPROM → EVR Fixture	Reading out the data of EEPROM. (Upper Digit)
08	EVR Fixture → Micro Computer (RAM)	Data transmission of EVR Fixture to Micro computer (RAM). (Address: 00~7F)
18	EVR Fixture → Micro computer (RAM)	Data transmission of EVR Fixture to Micro computer (RAM). (Address: 50~FF)
09	Micro computer (RAM) → EVR Fixture	Reading out the data of Micro computer (RAM). (Address: 00~7F)
19	Micro computer (RAM) → EVR Fixture	Reading out the data of Micro computer (RAM). (Address: 50~FF)

Fig. C10

(Error Indication)

If something error is happening while EVR is working, EVR indicates the error message which are mentioned in Fig. C12 for 2 seconds and then return to previous indication.

Error NO.	Contents of Error	Simple checking method
1	Set the wrong command number	
2	Set the wrong Address number	
3	VD signal from camera is not coming.	
4~6	Detect the error during communication	
7	Writing error in the EEPROM of camera.	
8	Communication error in the EEPROM of camera	

Fig. C11

(Adjustment Items required after replacing the individual components.)

When following parts are replaced, check the following adjustment items and adjust these if necessary.

NO.	Replaced Parts	Adjustment point or check points which are required			
		ALL ADJ. Points	Colour Reproduction	Focus & Zoom Encoder	Other ADJ.
1	IC320 (EEPROM)	○			
2	CCD Unit Individual		○	○	
3	Process C.B.A	○			
4	Sensor AF C.B.A	△	○	○	
5	Lens Unit			○	Hole Amp
6	Focus Encoder C.B.A			○	
7	IC301				
8	IC204				CDS Gain
9	IC501				AGC Gain, ALC Gain A/D input level
10	IC309				Y Level
11	IC702				Hole Amp
12	other				

○ mark Adjustment may be required.

△ mark Confirm adjustment necessity and adjust it, if necessary.

Colour Reproduction WB, Colour gain, colour phase adjustments.

Fig. C12

(Standard Setting for Camera Adjustment)

Unless specified, switches are set to following positions.

- 1) White Balance Switch...White set
(Refer to How to White Set)
AF...Auto
High speed shutter...OFF
Fade...OFF
Camera Mode Selector...Manual
- 2) Iris...Centre(ALC condition)
- 3) Use 3200 degress kelvin light source for lighting.
- 4) For trigger the oscilloscope, use Video output.
- 5) Service work for camera unit must be performed in a dust free location to maintain the lens cleanliness.

(How to White Set)

- 1) Disconnect the connector P2 on EVR Fixture.
- 2) Turn the Power SW of Camcorder on.
- 3) Set the Camera Mode Selector to Manual Position.
- 4) Aim the camera at white chart.

- 5) Keep the White Balance Button of Side Case (R) Unit pressed for more than 1 second for White Setting.
The "WHITE" Indication in the EVF informs about the state of the adjustment.
Flashing slowly.....No set
Flashing rapidly....During setting
Static indication...Setting is finished
- 6) Connect the connector P2 on EVR Fixture.
- 7) Turn the Power SW of EVR on.

(Hexadecimal-Decimal Conversion Table)

For some of adjustment Items, calculation of hexadecimal data (indicated on LED of EVR Fixture) is needed to obtain the adjustment daata. In these cases, convert the hexadecimal value to decimal value before calcuation and after calculation is finished, reconvert the result to hexadecimal to obtain the adjustment data. Thus, write the adjustment data into EEPROM. A hexadecimal - Decimal conversion table is shown in Fig. C13.

Hexadecimal lower digit	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Hexadecimal upper digic	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241	257
2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242	258
3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243	259
4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244	260
5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245	261
6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246	262
7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247	263
8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264
9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249	265
A	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266
b	27	43	59	75	91	107	123	139	155	171	187	203	219	235	251	267
C	28	44	60	76	92	108	124	140	156	172	188	204	220	236	252	268
d	29	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269
E	30	46	62	78	94	110	126	142	158	174	190	206	222	238	254	270
F	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255	271

For example: If indication of EVR is "A8" (as upper digit is "A" and lower digit is "8"), a decimal value of "168" is obtained from the intersection of ① and ② in the above table.

Fig. C13 Hexadecimal-Decimal Conversion Table

(Macro Operation)

The following operations are provided to transfer the data by one touch.

NO.	Buttons to be pushed	Operation
1	SHIFT 1 + 0 Push these together	Automatically calculating the Colour Reproduction.
2	SHIFT 1 + 1	Switching the Auto/Manual of IRIS.
3	SHIFT 1 + 2	Making IRIS fully open.
4	SHIFT 1 + 3	Making IRIS fully close.
5	SHIFT 1 + 4	Making AGC Gain maximize.
6	SHIFT 1 + 5	Making AGC Gain minimize.
7	SHIFT 1 + 6	Making the Hi-Speed Shutter to Down position.
8	SHIFT 1 + 7	Making the Hi-Speed Shutter to Up position.
9	SHIFT 1 + 8	Switching the Auto/Manual of Focus.
10	SHIFT 1 + 9	Zoom comes to "TELE" position.
11	SHIFT 1 + A	Zoom comes to "WIDE" position.
12	SHIFT 1 + B	Making CDS Gain maximize.
13	SHIFT 1 + C	Making CDS Gain minimize.
14	SHIFT 1 + D	FADE ON
15	SHIFT 1 + E	FADE OFF
16	SHIFT 2 + 0	Writing the Average Data and Fixed Data to EEPROM.

Fig. C14

Note:

If you want to stop the zoom in between TELE and WIDE, release the "SHIFT1" + "9" or "SHIFT1" + "A" button.

HOW TO READ THE ADJUSTMENT
PROCEDURES
(FOR USE OF CONVENTIONAL VR)

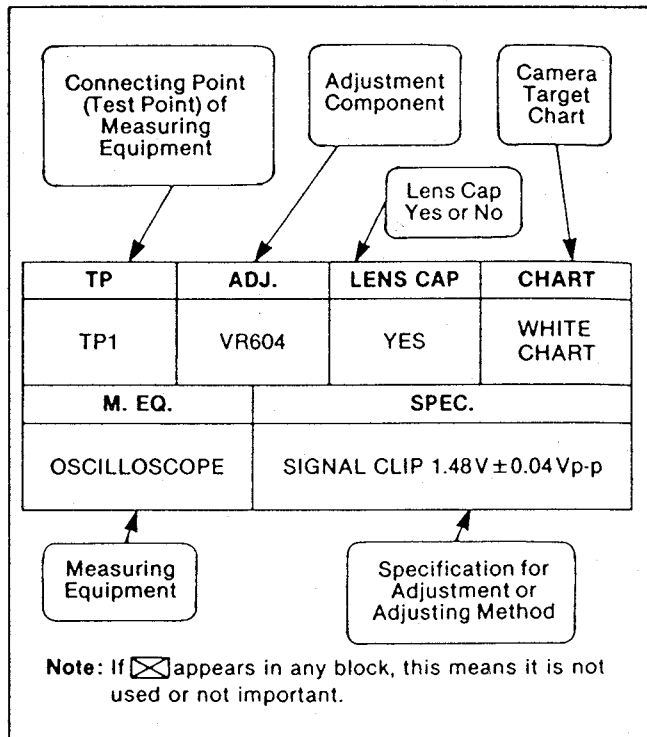


Fig. C15

HOW TO READ THE ADJUSTMENT
PROCEDURES
(FOR USE OF E.V.R.)

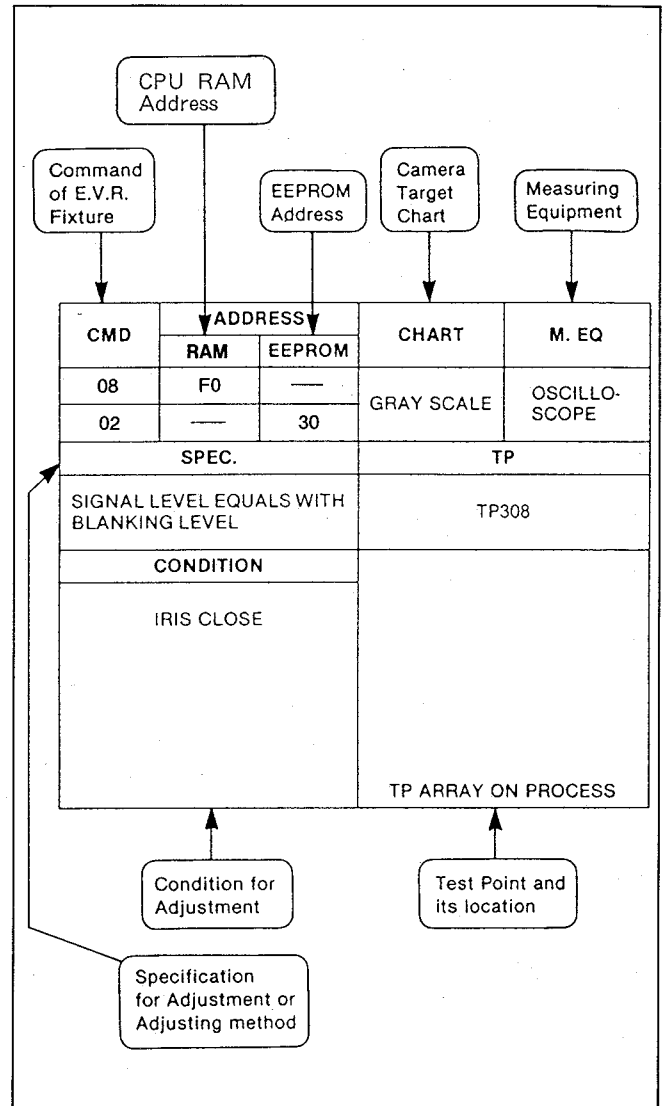


Fig. C15-1

1. DATA WRITING FOR FIXED
VALUE

1-1. When EEPROM is replaced, All item needs Re-Adjustment.

But some Item has Fixed Value that out of relation to EEPROM and Process IC. Therefore If EEPROM replaced, some Item must be write its data to EEPROM directly. Write the following data to EEPROM directly.

Note:

Direct Data writing of all Fixed Value is must be done before adjust the camera unit.

1-2. Example 1. (Manual Writing)

(1) Item 3. CORE.

1. Set the command to "02" by pushing "CMD" key, "0" key and "2" key.
2. Set the address to "0F" by pushing "ADR" key, "0" key and "F" key.
3. Set the data "03" by pushing "DATA" key, "0" key and "3" key. Then, push the "SET" key.

1-3. Example 2. (Automatic Writing)

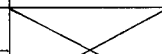
If VFK0701ROM3 (New ROM) is installed to the EVR Fixture (VFK0644), when the pushing SHIFT 2 and "0" key together, Fixed data is written in to EEPROM Automatically.

No.	ITEM	EEPROM COMMAND	EEPROM ADDRESS	VALUE OF DATA
1	V • AP CLIP	02	00	AA
2	HIGH • L • AP1	02	01	10
3	CORE	02	0F	03
4	HIGH • L • AP2	02	10	06
5	FLAG 5 (WB)	02	11	86
6	KEISHA	02	1F	0F
7	HIGH • L • AP3	02	20	80
8	C • GAIN AP	02	21	20
9	C • GAIN SET	02	22	55
10	V • AP CORE	02	23	A2
11	H • GATE ST/P	02	24	30
12	FLAG 2 (WB)	02	25	94
13	FLAG a (WB)	02	26	21
14	IRIS AVERAGE	02	28	20
15	IRIS PEAK	02	29	1A
16	INTEGRAL GAIN	02	2A	22
17	IRIS • FIX • VALUE	02	2B	FF
18	IRIS COEF 3	02	2C	21
19	H • GATE ED/P	02	2D	50
20	PIC ELEMENT CLIP	02	2E	C8
21	FLAG 3 (WB)	02	2F	8C
22	IRIS COEF 3	02	30	33
23	IRIS COEF 2	02	31	21
24	V • GATE ST/P	02	32	20
25	IRIS BRAKE POINT 1	02	33	30
26	IRIS FLAG	02	34	04
27	V • GATE ED/P	02	35	40
28	IRIS BRAKE POINT 2	02	36	10
29	IRIS BRAKE POINT 3	02	37	30
30	AP SUPPRESS OFF	02	38	48
31	AP SUPPRESS GC	02	39	98
32	C SUPPRESS OFFSET	02	3A	E0

No.	ITEM	EEPROM COMMAND	EEPROM ADDRESS	VALUE OF DATA
33	H • GATE ST/B	02	3B	70
34	HL GAIN	02	3C	88
35	PEAK CLIP	02	3D	FF
36	DATA SET	02	3E	FE
37	V • GATE ST/B	02	3F	18
38	OB OFFSET	02	42	10
39	IRIS BRAKE-POINT	02	45	10
40	AP GAIN	02	46	C3
41	POLARITY DATA	02	4D	09
42	FLAG 6	02	4E	02
43	H • AP • CORE	02	4F	23
44	PEDE (NCR)	02	50	0A
45	PEDE (CORR)	02	51	0A
46	FLARE CORR ST	02	52	50
47	FLARE CORR ED	02	53	90
48	FLAG 4 (WB)	02	54	83
49	TABLE MOVE H	02	55	6C
50	IRIS SET	02	7B	72
51	ERRORE TB CL	02	7C	00
52	AGC MAX GAIN	02	7E	D0
53	ALC F VALUE CORR	12	0C	4E
54	ALC CORR COEF	12	01	83
55	LPF SPACE (LATE)	12	10	08
56	LPF SPACE (FAST)	12	11	08
57	OUTDOOR MOVE CL	12	20	25
58	PORTRAIT COEF 1	12	25	08
59	PORTRAIT COEF 2	12	26	04
60	FADE SW POINT	12	28	80
61	FADE H	12	29	DB
62	FADE SW H1	12	2A	37
63	FADE SW H2	12	2B	6E

Fig. C16

2. VTR PEDESTAL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
18	R-Y:1C B-Y:1D	—		VECTOR- SCOPE
02	—	R-Y:4B B-Y:4C		
SPEC.			TP	
CENTRE OF ECTORSCOPE			VIDEO OUT	

Note:

Refer to preparation for connection of EVR.

1. Connect the vectorscope to video out.
2. Place the unit to "FADE" by pushing "SHIFT 1" and "D" keys together.
3. Push "CMD", "1" and "8" keys.
4. Push "ADR", "1" and "C" keys.
5. Push "INC" or "DEC" so that vector comes to centre as shown in Fig.C17.
6. Push "CMD", "0" and "2" keys.
7. Push "ADR", "4" and "B" keys.
8. Push "SET" key to write its adjusted data in EEPROM.
9. Change "CMD" to "18" and "ADR" to "4C".
10. Push "INC" or "DEC" so that vector comes to centre as shown in Fig.C17.
11. Push "CMD", "0" and "2" keys.
12. Push "ADR", "4" and "C" keys.
13. Push "SET" key.

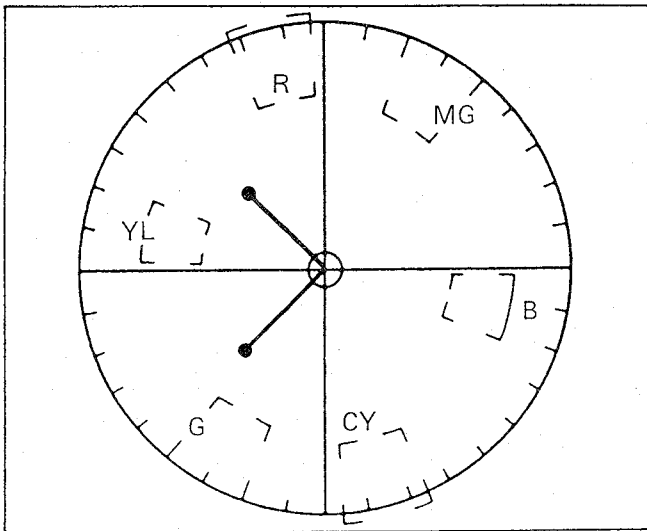


Fig. C17

3. SUB CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP308	C316		
M. EQ.		SPEC.	
FREQUENCY COUNTER		4.4336185MHz+/-5Hz	

4. FCK PLL VOLTAGE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP307	C314		
M. EQ.		SPEC.	
D.V.M.		1.7+/-0.1V	

5. HOLE AMP ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
P701-4	VR703 VR704	NO	
M. EQ.		SPEC.	
D.V.M.		VOLTAGE TP707= VOLTAGE P701-19 VOLTAGE TP707= VOLTAGE P701-20	

1. Connect the jumper wire between P701-12 and P701-8. (IRIS close)
2. Adjust the VR703 so that Voltage at P701-4 equalize to Voltage at P701-20.
3. Connect the jumper wire between P701-12 and P701-13. (IRIS open)
4. Adjust the VR704 so that Voltage at P701-4 equalize to Voltage at P701-19.

6. FOCUS ENCODER ADJUSTMENT

Note 1:

Before performing this adjustment, check the "Back Focus".

If Back Focus is not correct, adjust this Focus Encoder adjustment.

(Refer to Note 2) Unless there is back focus problem, do not touch this focus encoder. This adjustment is very critical.

- (1) Set the Focus switch to "MANUAL".
- (2) Check the back focus. (Refer to Note 2)
If it is correct, there is no need to adjust this.
- (3) If back focus is not correct.

- (4) Set the zoom position to fully TELE side. Focus the lens with far object (more than 10m)
- (5) Loosen screw (A). Move the Focus Encoder C.B.A. so that voltage of centre of connector (B) becomes 2.4V±0.5V. Then, tighten the screw (A).

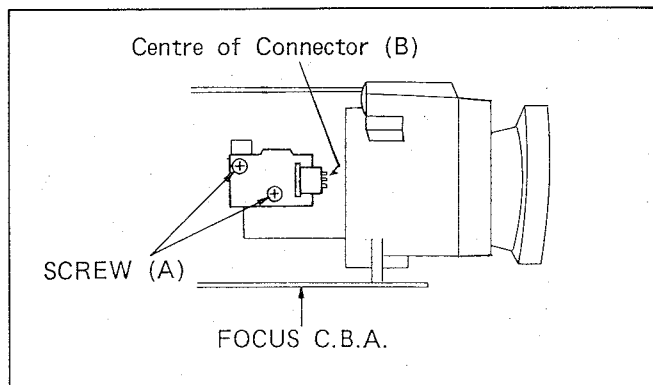


Fig. C18

Note 2:

Confirmation of back focus.

- A) Set the Focus switch to "MANUAL".
- B) Set the zoom to fully TELE position.
- C) Set the lens with far object. (more than 10m)
- D) Move the zoom to WIDE position. Check the focus condition at wide position and on the way to WIDE position.
- E) If focus not correct, adjust the Focus ENCODER adjustment.

7. ZOOM ENCODER ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
18	T:1A W:1B	—	Far object: 10m	DIGITAL VOLTMETER
02,04	—	T:48 W:49	Near object: 1m	
SPEC.			TP	
To be calculated			P701-5:V REF (+) P701-18:V REF (-)	

1. Set the IRIS sw to "MANUAL". (SHIFT1+1)
2. Set the IRIS to "CLOSE". (SHIFT1+3)
("0" is displayed at Address point on EVR.)

Note:

- 1) Unless you replaced zoom Encoder, 3rd lens unit or 4th moving frame unit, do not perform this adjustment. (Because this adjustment is critical).
- 2) Regarding the connection of EVR, refer to preparation. (Fig. C6)

(Simplified adjustment)

3. Set the Focus sw to "MANUAL". (SHIFT1+8)
4. Check the back Focus. (Refer to Note 2 of Focus Encoder Adjustment)

5. If back focus is not correct, proceed to 6. If back focus is correct, skip this adjustment.
6. Connect the EVR to camcorder (Refer to Preparation Fig. C6).
7. Read the data of Tele side and Wide side in EEPROM as follows;
 - * Push "CMD" button and then push "0" and "4". (Setting command 04)
 - * Push "ADR" button and then push "4" and "8". (Setting command 48)
 - * Push "SET" button and take memo of number which is indicated on LED Display. (as TELE side data)
 - * As the same way, set the command "04".
 - * Set the address "49".
 - * Push the "SET" button and memo the number which is indicated on LED Display. (as WIDE side data)
8. Set the command(CMD) to "18".
9. Set the address(ADR) to "1A" for TELE.
10. Push "INC" or "DEC" once to increase or decrease the data for one step.
11. Confirm the back focus. Repeat 9. and 10. until back focus becomes best.
12. When back focus becomes best, write the data to Address 48 of EEPROM. (With Command 02)
13. Set the address(ADR) to "1B" for WIDE.
14. Push "INC" or "DEC" once to increase or decrease the data for one step.
15. Confirm the back focus. Repeat 13. and 14. until back focus becomes best.
16. When back focus becomes best, write the data to Address 49 of EEPROM. (With Command 02)

(Precise Adjustment for Zoom Encoder)

According to number which is mentioned on white sheet of lens unit, calculate the voltage to be supplied the both side of zoom Encoder. And write the its result into EEPROM as follows:

<Pre-Adjustment>

1. Calculate the V.REF(+), V.REF(-) using the following formula.

TELE side

$$V.REF(+) = V.REF3 + (V.REF3 - V.REF1) \times (5 - VT) / (VT - VW)$$

WIDE side

$$V.REF(-) = V.REF1 - (V.REF3 - V.REF1) \times VW / (VT - VW)$$

V.REF3 = Voltage at P701-19

(Please measure it)

V.REF1 = Voltage at P701-20

(Please measure it)

VT = which is mentioned by a number of six figures with bar code on white sheet of top portion of lens unit. (number of three figures of rear side). This number of three figures is always 4. something. for example, if 564 is written, this means 4.564.

VW = which is mentioned by a number of six figures with bar code on white sheet of top portion of lens unit. (number of three figures of front side) This number of three figures is always 0. something. for example, if 324 is written, this means 0.324.

VA = Voltage of P701-17 at full zoom WIDE position.
 VB = Voltage of P701-17 at full zoom TELE position.
 $V'A = VA + 0.0029$
 $VAD = (V.REF3 - V.REF1) \times 31255$

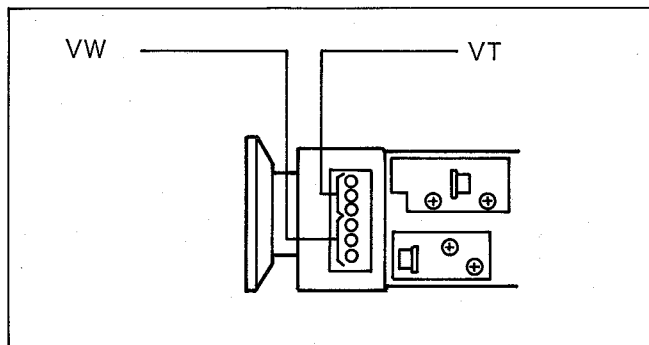


Fig. C19

2. Take memo the above result of calculation.
3. Set the zoom to fully TELE position.
4. Connect the probe of volt meter to P701-15: V.REF(+) and measure the voltage.
5. Using E.V.R, change the data of RAM address to "1A" with command "18" so that voltage at P701-15: V.REF(+) becomes same as a result of calculation as follows :
 * Push "CMD", "1" "8".
 * Push "ADR", "1" "A".
 * Measure the voltage at P701-15: V.REF(+).
 * Push "INC" or "DEC" so that voltage at P701-15: V.REF(+) becomes same as a result of calculation.
 * Write the data to Address 48 of EEPROM. (With Command 02)
6. As the same way, set the zoom to fully WIDE position.
7. Measure the voltage at P701-18: V.REF(-).
8. Change the RAM address to "1B" (with command "18") and increase or decrease the data by pushing "INC" or "DEC" so that voltage at P701-18: V.REF(-) becomes same as a result of calculation. Then, write the data to Address 49 of EEPROM (With Command 02).

<Fine Adjustment>

1. Calculate the following formula with measuring the each voltage, and take note the result.
 * TELE Side
 $V.REF(+) = VB + (VB - (V'A - VAD) \times (5 - VT)) / (VT - VW)$
 * WIDE side
 $V.REF(-) = (V'A - VAD) - (VB - (V'A - VAD)) \times VW / (VT - VW)$
2. Set the zoom to fully TELE position.
3. While measuring the voltage at P701-15, Change the data of RAM address "1A" with command "18" so that voltage at P701-15 become same as a result of calculation and when P701-15 voltage comes same as result of calculation write its data to Address 48 of EEPROM (With Command 02).
 * Push "CMD", "1" and "8".
 * Push "ADR", "1" and "A".
 * Measure the voltage at P701-15.
 * Push "INC" or "DEC" so that voltage at P701-15 becomes same as a result of calculation.
 * Write the data to Address 49 of EEPROM (With Command 02).

4. Set the zoom to fully WIDE position.
5. While measuring the voltage at P701-18, change the data of RAM address "1B" with command "18" so that voltage at P701-18 becomes same as a result of calculation and write its data to Address 49 of EEPROM (With Command 02). The procedure is same as 3., only address is "1B".

8. V-SUB ADJUSTMENT (NORMAL)

TP	ADJ.	LENS CAP	CHART
	VR201	NO	HALOGEN LAMP
M. EQ.		SPEC.	
MONITOR TV		NO BLOOMING	

1. Push "SHIFT1" key and "7" key together until picture changing on Monitor TV is stopped. (1/16000 High Speed Shutter mode : "1" is displayed at Address point on EVR)
2. Push "SHIFT1" key and "A" key together until Zoom comes to end of WIDE.
3. Push "SHIFT1" key and "1" key together so that IRIS becomes to MANUAL position.
4. Push "SHIFT1" key and "2" key together so that IRIS becomes to FULLY OPEN position. ("F" is displayed at Address point on EVR.)
5. Push "SHIFT1" key and "5" key together so that AGC GAIN becomes to MINIMUM condition.
6. Push "SHIFT1" key and "C" key together so that CDS GAIN becomes to MINIMUM condition.
7. Aim the camera at the Halogen Lamp as shown in Fig.C20.

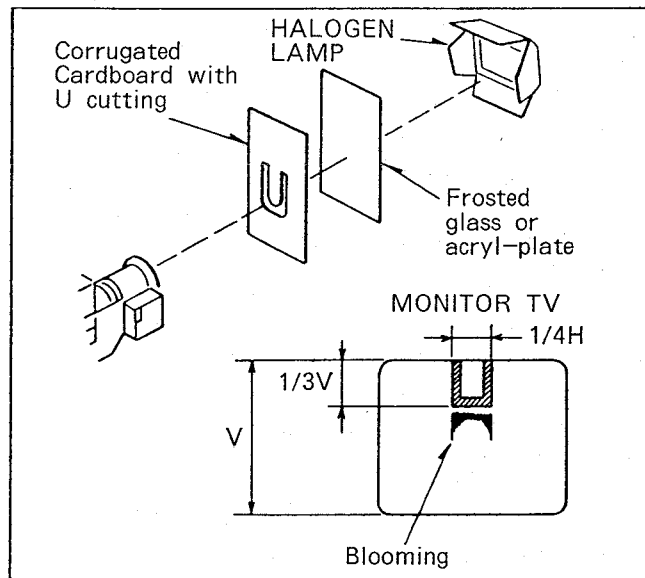


Fig. C20

8. Blind the lighting using frosted glass or acryl plate to diffuse incoming light. And also put a corrugated carboard which inside is cut to "U" shape as shown in Fig.C20.
9. Adjust VR201 so that blooming is just disappear. (If blooming is not disappeared completely, adjust until minimum blooming).
10. High Speed Shutter "ON" and "OFF" both mode, confirm that the monitored picture does not contain the Blooming even if the camera moves as shown in Fig.C21.

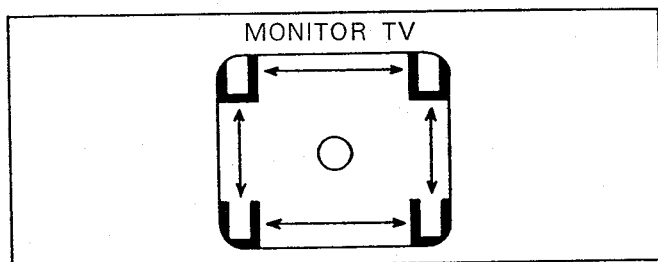


Fig. C21

11. Push "CMD" key and then push "0" and "4" keys.
12. Push "ADR" key and then push "4" and "4" keys.
13. Push "SET" key.
14. Push "CMD" key and then push "1" and "8" keys.
15. Push "ADR" key and then push "0" and "D" keys.
16. Push "SET" key to return the AGC GAIN to original condition. (Do not change the data)
17. Push "CMD" key and then push "0" and "4" keys.
18. Push "ADR" key and then push "4" and "1" keys.
19. Push "SET" key.
20. Push "CMD" key and then push "1" and "8" keys.
21. Push "ADR" key and then push "0" and "B" keys.
22. Push "SET" key to return the CDS GAIN to original condition. (Do not change the data)

9. V-SUB ADJUSTMENT(STROBE MODE)

TP	ADJ.	LENS CAP	CHART
	VR202	NO	HALOGEN LAMP
M. EQ.		SPEC.	
MONITOR TV		NO BLOOMING	

Note:

Connect the jumper wire between P701-7 and P701-20.

1. Push "SHIFT1" key and "6" key together until picture on Monitor TV is normal.
2. Push "7" key fifth times while push "SHIFT1" key. (1/250 High Speed Shutter mode: "A" is displayed at Address point on EVR)
3. Push "SHIFT1" key and "A" key together until Zoom comes to end of WIDE.
4. Push "SHIFT1" key and "1" key together so that IRIS becomes to MANUAL position.
5. Push "SHIFT1" key and "2" key together so that IRIS becomes to FULLY OPEN position. ("F" is displayed at Address point on EVR.)
6. Push "SHIFT1" key and "5" key together so that AGC GAIN becomes to MINIMUM condition.
7. Push "SHIFT1" key and "C" key together so that CDS GAIN becomes to MINIMUM condition.
8. Aim the camera at the Halogen Lamp as shown in Fig.C20.
9. Blind the lighting using frosted glass or acryl plate to diffuse incoming light. And also put a corrugated carboard which inside is cut to "U" shape as shown in Fig.C20.
10. Adjust VR202 so that blooming is just disappear. (If blooming is not disappeared completely, adjust until minimum blooming)
11. High Speed Shutter "ON" and "OFF" both mode, confirm that the monitored picture does not contain the Blooming even if the camera moves as shown in Fig.C21.

12. Push "CMD" key and then push "0" and "4" keys.
13. Push "ADR" key and then push "4" and "4" keys.
14. Push "SET" key.
15. Push "CMD" key and then push "1" and "8" keys.
16. Push "ADR" key and then push "0" and "D" keys.
17. Push "SET" key to return the AGC GAIN to original condition. (Do not change the data)
18. Push "CMD" key and then push "0" and "4" keys.
19. Push "ADR" key and then push "4" and "1" keys.
20. Push "SET" key.
21. Push "CMD" key and then push "1" and "8" keys.
22. Push "ADR" key and then push "0" and "B" keys.
23. Push "SET" key to return the CDS GAIN to original condition. (Do not change the data)
24. Disconnect the jumper wire between P701-7 and P701-20.

10. Ø R BIAS ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
18	0A	--	J-CHART	OSCILLO- SCOPE
02	--	40		
SPEC.			TP	
V=LESS THAN 10mV			TP202	

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at J-CHART.
3. Connect the Oscilloscope to TP202.
4. Push "CMD" key and then push "1" and "8". (Setting Command 18)
5. Push "ADR" key and then push "0" and "A". (Setting Address 0A)
6. Push "INC" or "DEC" key so that V level becomes less than 10mV as shown in Fig.C22.
7. Push "CMD" key and then push "0" and "2".
8. Push "ADR" key and then push "4" and "0".
9. Push "SET" key.

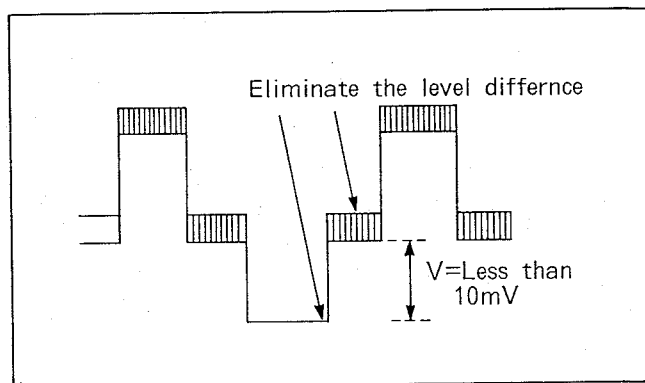


Fig. C22

11. BLANKING ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	0E	—		OSCILLO- SCOPE
02	—	7D		
SPEC			TP	
V=LESS THAN 5mV			P701-14	

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Set the IRIS to "CLOSE". (SHIFT1+3) ("0" is displayed at Address point on EVR.)
3. Connect the Oscilloscope to P701-14.
4. Push "CMD" key and then push "1" and "8". (Setting Command 18)
5. Push "ADR" key and then push "0" and "E". (Setting Address 0E)
6. Push "INC" or "DEC" so that V level becomes less than 5mV as shown in Fig.C23.
7. Push "CMD" key and then push "0" and "2".
8. Push "ADR" key and then push "7" and "D".
9. Push "SET" key.

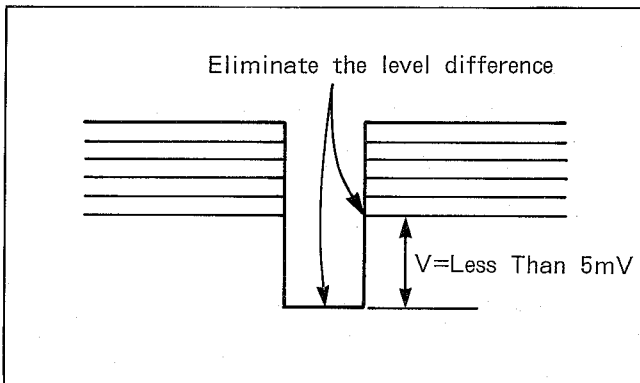


Fig. C23

12. CDS GAIN ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	0B	—	GRAY SCALE CHART	OSCILLO- SCOPE
02	—	41		
SPEC			TP	
300mV±10mV			TP201 TP203	

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to TP201.
4. Push "SHIFT1" and "2" or "3" together so that signal level at TP201 becomes 350mV±10mV as shown in Fig.C24.
5. Connect the Oscilloscope to TP203.
6. Push "CMD" key and then push "1" and "8".
7. Push "ADR" key and then push "0" and "B".
8. Push "INC" or "DEC" so that signal level at TP203 becomes 300mV±10mV as shown in Fig.C24.
9. Push "CMD" key and then push "0" and "2".
10. Push "ADR" key and then push "4" and "1".
11. Push "SET" key.

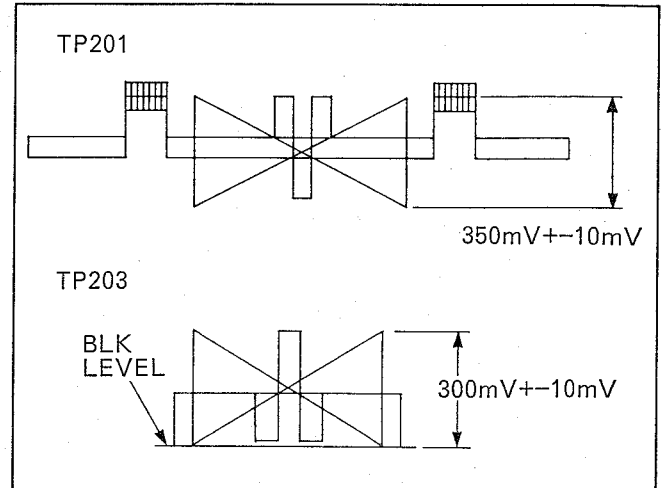


Fig. C24

13. LOW CLIP LEVEL ADJUSTMENT

CMD	ADRESS		CHART	M. EQ.
	RAM	EEPROM		
18	0C	—	BLACK CHART	OSCILLO- SCOPE
02	—	43		
SPEC			TP	
A=20mV±10mV			P701-15	

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at Black Chart.
3. Connect the Oscilloscope to P701-15.
4. Push "CMD" key and then push "1" and "8".
5. Push "ADR" key and then push "0" and "D".
6. Push "DATA" key and then push "F" and "F". (4 to 6 are AGC MAX Setting)
7. Push "ADR" key and then push "0" and "C".
8. Push "INC" or "DEC" so that A level at P701-15 becomes 20mV±10mV as shown in Fig.C25.
9. Push "CMD" key and then push "0" and "2".
10. Push "ADR" key and then push "4" and "3".
11. Push "SET" key.
12. Push "CDM" key and then push "0" and "4".
13. Push "ADR" key and then push "4" and "4".
14. Push "SET" key.
15. Push "CMD" key and then push "1" and "8".
16. Push "ADR" key and then push "0" and "D".
17. Push "SET" key.

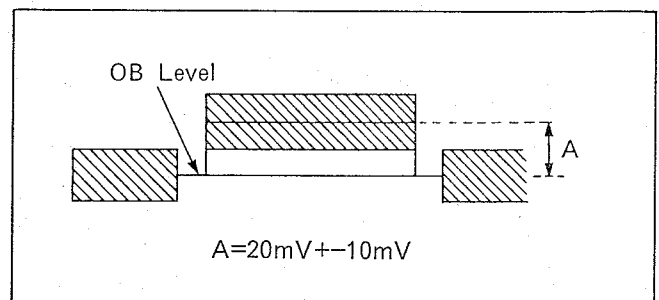


Fig. C25

14. AGC ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	OD	—	GRAY SCALE CHART	OSCILLO- SCOPE
02	—	44		
SPEC			TP	
400mV±10mV			TP203 P701-9	

Note:

Perform this adjustment after finishing the CDS GAIN ADJUSTMENT.

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to TP203.
4. Push "SHIFT1" and "2" or "3" together so that signal level at TP203 becomes 300mV±10mV as shown in Fig.C26.
5. Connect the Oscilloscope to P701-9.
6. Push "CMD" key and then push "1" and "8".
7. Push "ADR" key and then push "0" and "D".
8. Push "INC" or "DEC" so that signal level at P701-9 becomes 400mV±10mV as shown in Fig. C26.
9. Push "CMD" key and then push "0" and "2".
10. Push "ADR" key and then push "4" and "4".
11. Push "SET" key.

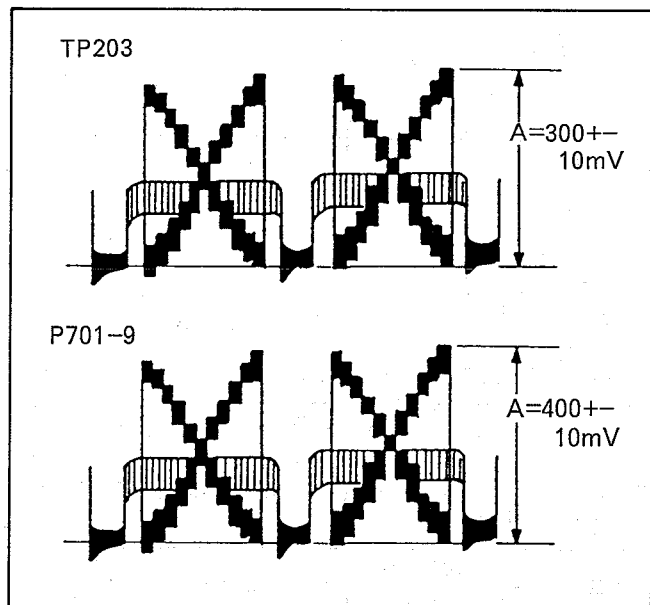


Fig. C26

15. A/D INPUT LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP203 P701-15	VR501	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
OSCILLOSCOPE		1.20V±50mV	

Note:

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to TP203.
4. Push "SHIFT1" and "2" or "3" together (or Push IRIS(+) or (-) button on Side Case (R) Unit) so that signal level at TP203 becomes 300mV±10mV as shown in Fig.C26.
5. Connect the Oscilloscope to P701-15.
6. Adjust VR501 so that signal level at P701-15 becomes 1.20V±50mV as shown in Fig.C27.

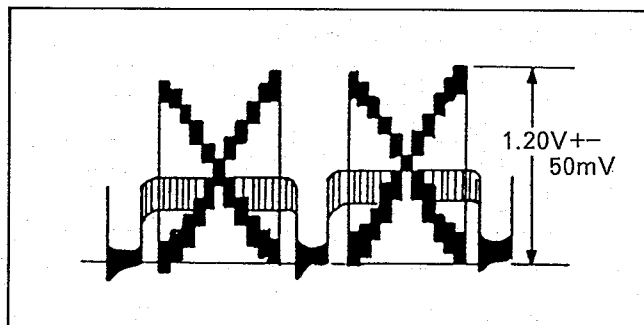
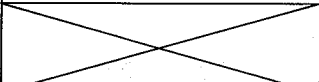


Fig. C27

16. ALC ADJUSTMENT (1)

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
08	D5	—	GRAY SCALE CHART	OSCILLO- SCOPE
02	—	7A		
SPEC			TP	
			P701-15	

Note:

Perform this adjustment after finishing the CDS GAIN, AGC and A/D INPUT LEVEL ADJUSTMENT.

1. Set the IRIS to "MANUAL". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to P701-15.
4. Push "SHIFT1" and "2" or "3" together so that signal level at P701-15 becomes 1.20V±50mV as shown in Fig.C27.
5. Push "CMD" key and then push "0" and "9".
6. Push "ADR" key and then push "D" and "5".
7. Push "SET" key to read out the data in RAM.
8. Push "CMD" key and then push "0" and "2".
9. Push "ADR" key and then push "7" and "A".
10. Push "SET" key.

17. ALC ADJUSTMENT (2)

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	0F	—	GRAY SCALE CHART	OSCILLO- SCOPE
02	—	47		
SPEC			TP	
1.20V±50mV			P701-15	

1. Set the IRIS to "AUTO". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to P701-15.
4. Push "CMD" key and then push "1" and "8".
5. Push "ADR" key and then push "0" and "F".
6. Push "INC" or "DEC" key so that signal level at P701-15 becomes $1.20V \pm 50mV$ as shown in Fig.C27.
7. Push "CMD" key and then push "0" and "2".
8. Push "ADR" key and then push "4" and "7".
9. Push "SET" key.

18. Y CLIP LEVEL ADJUSTMENT

CMD	ADRESS		CHART	M. EQ.
	RAM	EEPROM		
08	AF	—	GRAY SCALE CHART	OSCILLO- SCOPE
02	—	08		
SPEC			TP	
500±20 mV			P701-16	

1. Set the IRIS to "AUTO". (SHIFT1+1)
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to P701-16.
4. Push "CMD" key and then push "0" and "8".
5. Push "ADR" key and then push "A" and "F".
6. Push "INC" or "DEC" key so that signal level at becomes $500mV \pm 20mV$ as shown in Fig.C28.
7. Push "CMD" key and then push "0" and "2".
8. Push "ADR" key and then push "0" and "8".
9. Push "SET" key.

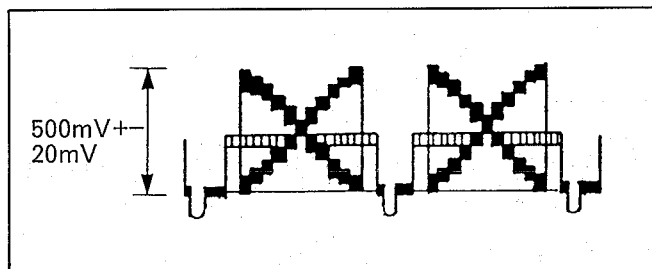


Fig. C28

19. INDOOR WHITE BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
09	A3(R-Y) A4(B-Y)	——	WHITE CHART	VECTOR- SCOPE
02	——	77(R-Y) 76(B-Y)		
SPEC.			TP	
CENTRE OF VECTORSCOPE			VIDEO OUT	

1. Disconnect the connector P2 on EVR.
2. Turn the Power SW of camcorder on.
3. Connect the Video out to Vectorscope.
4. Aim the camera at white chart.

5. Presse the White Balance Button of Side Case (R) Unit.
(Please confirm,vectors come to centre.)
(Refer to "How to White Set" on page 2-28.)
6. Connect the connector P2 on EVR.
7. Turn the Power SW of EVR on.
8. Set the command "09" by pushing "CMD","0" and "9" keys.
9. Set the address to "A3" by pushing the "ADR" key,"A" key and "3" key.
10. Push the "SET" key for Read out the data from proper address of CPU-RAM.
And then change command to "02" by pushing the "CMD" key and "0" key and "2" key,and change the address to "77" by pushing "ADR" key,"7" key.(Do not change the data).
11. Push the "SET" key to write its data to EEPROM Directly.
12. Change the command "09" by pushing "CMD","0" and "9" keys.
13. Set the address to "A4" by pushing the "ADR" key,"A" key and "4" key.
14. Push the "SET" key for Read out the data from proper address of CPU-RAM.
And then change command to "02" by pushing the "CMD" key and "0" key and "2" key,and change the address to "76" by pushing "ADR" key,"7" key,and "6" key.(Do not change the data).
15. Push the "SET" key to write its data to EEPROM

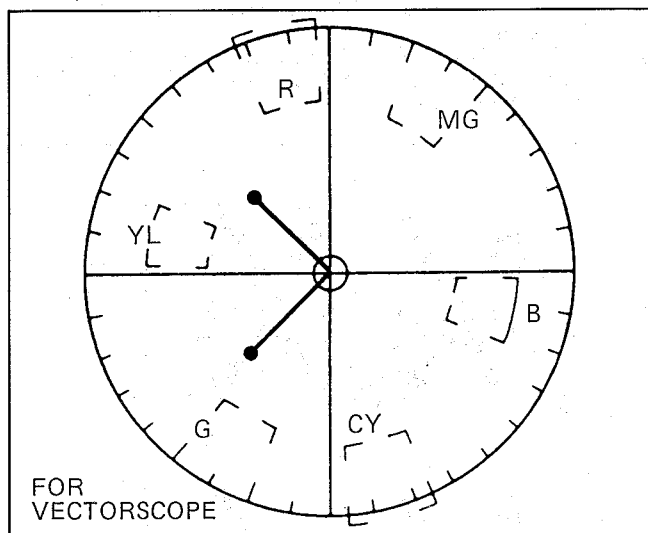


Fig. C29

20. COLOUR PHASE AND GAIN ADJUSTMENT (INDOOR)

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
08	BB, BC (PHASE) B2, B3 (GAIN)	—	COLOUR CHIP CHART	VECTOR- SCOPE
02	—	0D, 1D (PHASE) 06, 16 (GAIN)		
SPEC.			TP	
RED: 103+—3degree/PHASE 200+—10%/GAIN YEL: 158+—3degree/PHASE 157+—10%/GAIN			VIDEO OUT	

Note:

Regarding the connection of EVR, refer to preparation.(Fig.C6)

1. Aim the camera at colour chip chart.
2. Connect the video output to vectorscope.
3. Set the command to "08" by pushing the "CMD" key, "0" key and "8" key.
4. Set the address to "BB" (R-Y Phase) by pushing the "ADR" key, "B" key and "B" key.
5. Push the "INC" or "DEC" key so that phase of Red and yellow Vector approach to the spec.
6. When best point comes, Set the command to "02" by Pushing the "CMD" key, "0" key and "2" key.
7. Set the address to "0D" by pushing the "ADR" key, "0" key and "D" key.
8. Push the "SET" key.
9. Change the command to "08", and change the address to "BC" (Same procedures as 3, 4).
10. Push the "INC" key or "DEC" key so that phase of Red and Yellow vector approach to the spec.
11. When best point comes, change the command to "02", and change the address to "1D" (Same procedures as 3, 4).
12. Push the "SET" key.
13. Change the command to "08" and change the address to "B2" (R-Y GC) (same procedures as 3, 4).
14. Push the "INC" key or "DEC" key so that gain of Red and Yellow vector approach to the spec.
15. When best point comes, change the command to "02" and change the address to "06". (Same procedures as 3, 4)
16. Push the "SET" key.
17. Change the command to "08" and change the address "B3" (B-Y GC) (Same procedures as 3, 4).
18. Push the "INC" key or "DEC" key so that gain of Red and Yellow vector approach to the spec.
19. When best point comes, change the command to "02" and change the address to "16" (Same procedures as 3, 4).
20. Push the "SET" key.
21. Repeat the 3 to 20 until vectors become within spec as shown Fig.C30.

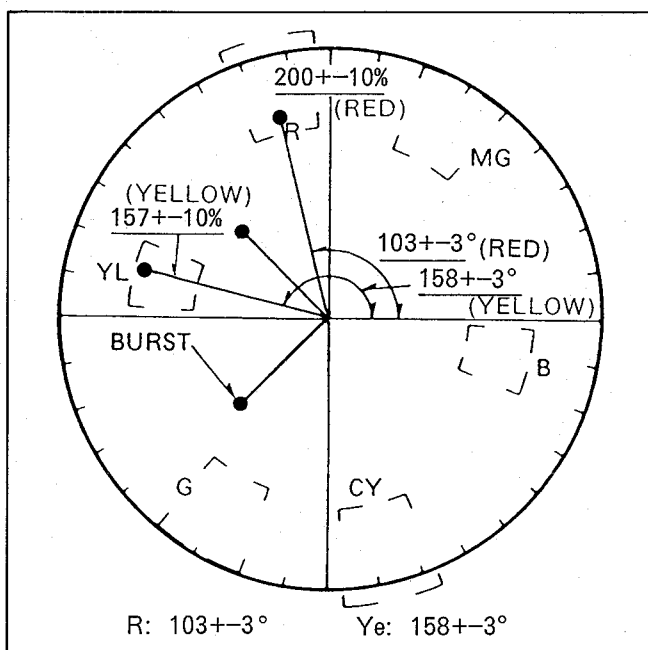


Fig. C30

21. OUTDOOR WHITE BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
09	A3(R-Y) A4(B-Y)	—	WHITE CHART	VECTOR- SCOPE OR OSCILLO- SCOPE
02	—	71(R-Y) 70(B-Y)		
SPEC.			TP	
VECTOR COMES CENTRE OR WAVEFORM IS MINIMIZED			VIDEO OUT	
CONDITION				
IRIS VR: CENTRE COLOUR TEMPERATURE CONVERSION FILTER: VFK0713 (C12) VFK0716 (C2)				

1. Disconnect the connector P2 on EVR.
2. Turn the Power SW of camcorder on.
3. Connect the Video out to Vectorscope.
4. Cover the lens with colour temperature conversion filter VFK0713 and VFK0716 to imitate the outdoor lighting.
5. Aim the camera at white chart.
6. Presse the White Balance Button of Side Case (R) Unit.
(Please confirm, vectors come to centre.)
(Refer to "How to White Set" on page 2-28.)
7. Connect the connector P2 on EVR.
8. Turn the Power SW of EVR.
9. Set the command "09" by pushing "CMD", "0" and "9" keys.
10. Set the address to "A3" by pushing the "ADR" key, "A" key and "3" key.
11. Push the "SET" key for Read out the data from proper address of CPU-RAM.
And then change command to "02" by pushing the "CMD" key and "0" key and "2" key, and change the address to "71" by pushing "ADR" key, "7" key, and "1" key. (Do not change the data).
12. Push the "SET" key to write its data to EEPROM Directly.
13. Change the command "09" by pushing "CMD", "0" and "9" keys.
14. Set the address to "A4" by pushing the "ADR" key, "A" key and "4" key.
15. Push the "SET" key for Read out the data from proper address of CPU-RAM.
And then change command to "02" by pushing the "CMD" key and "0" key and "2" key, and change the address to "70" by pushing "ADR" key, "7" key, and "0" key. (Do not change the data).
16. Push the "SET" key to write its data to EEPROM Directly.

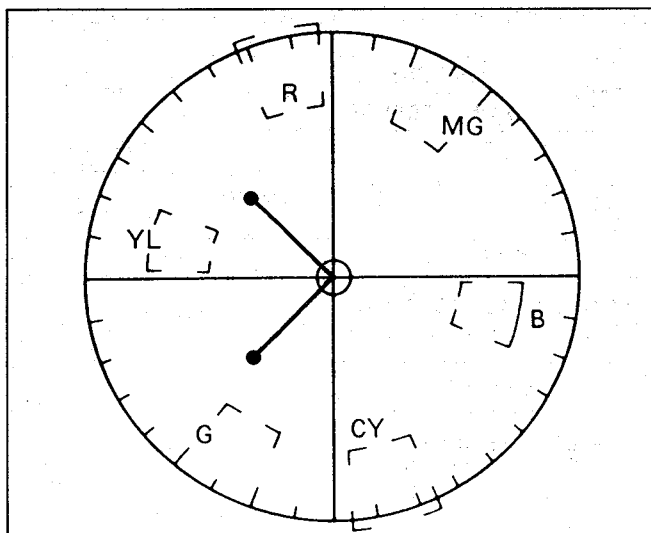


Fig. C31

22. COLOUR PHASE AND GAIN ADJUSTMENT (OUTDOOR)

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
08	BB, BC (PHASE) B2, B3 (GAIN)	——	COLOUR CHIP CHART	VECTOR- SCOPE
02	——	0A, 1A (PHASE) 03, 13 (GAIN)		
SPEC.			TP	
RED:104+—3degree/PHASE 200+—10%/GAIN YEL:160+—3degree/PHASE 176+—10%/GAIN			VIDEO OUT	

1. Connect the video output to vectorscope.
2. Aim the camera at colour chip chart. and cover the lens with colour temperature conversion filter VFK0713 and VFK0716.
3. Set the command to "08" by pushing the "CMD" key, "0" key and "8" key.
4. Set the address to "BB" (R-Y PHASE) by pushing the "ADR" key, "B" key and "B" key.
5. Push the "INC" key or "DEC" key so that phase of Red and Yellow vectors approach to spec.
6. When best point comes, change the command to "02" by pushing "CMD" key, "0" key and "2" key and change the address to "0A" by pushing the "ADR" key, "0" key and "A" key (Do not change the data) and then push the "SET" key to write its adjusted data into EEPROM directly.
7. Change the command to "08" by pushing the "CMD" key, "0" key and "8" key. Change the address to "BC" by pushing the "ADR" key, "B" key and "C" key.
8. Push the "INC" key or "DEC" key so that phase of Red and Yellow vectors approach to the spec.

9. When best point comes change the command to "02" by pushing the "CMD" key, "0" key and "2" key. (Do not change the data), and change the address to "1A" by pushing "ADR" key, "1" key and "A" key. Then, Push the "SET" key to write its adjusted data to EEPROM Directly.
10. Change the command to "08" by pushing the "CMD" key "0" key and "8" key. Change the address to "B2" (R-Y Gain) by pushing "ADR" key, "B" key and "2" key.
11. Push the "INC" or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
12. When best point comes, change the command to "02" and change the address to "03" while keeping the data. Then, Push the "SET" key to write its adjusted data to EEPROM directly.
13. Change the command to "08". Change the address to "B3" (B-Y Gain).
14. Push the "INC" or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
15. When the best point comes, change the command to "02" and change the address to "13" (do not change the data). Then, Push the "SET" key to write adjusted data to EEPROM directly.
16. Repeat the 3. to 15. until vectors become within spec as shown in Fig.C32.

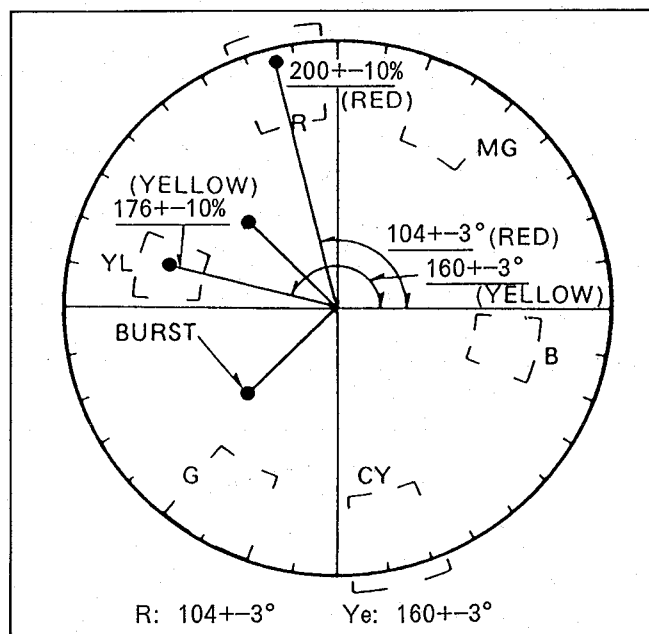


Fig. C32

23. DATA WRITING FOR COLOUR REPRODUCTION

As stated before, each adjustment voltage are memorized in EEPROM as digital data. Regarding colour reproduction adjustments such as white balance, phase and gain adjustments, only adjustments have been performed at indoor condition (3200 degree kelvin) and outdoor condition (5100 degree kelvin). EEPROM needs the data at other condition, too such as data at 3600 degree kelvin, 4500 degree kelvin and 6000 degree kelvin. In order to fulfill the entering rest of these data, following calculation have to be done and result must be entered to proper address of EEPROM.

Note:

If VFK0701ROM3 (New ROM) is installed to the EVR Fixture(VFK0644), EVR Fixture can calculate the colour reproduction data (Fig.C33) and the AWB data (Fig.C33) then calculation results are entered to proper address of EEPROM automatically. Manner of Automatic calculation is as follows. Pushing "SHIFT2" and "0" key together.

(How to calculate and enter the data)

- 1) Read the data from proper address of EEPROM, which is indicated in following formula column.
- 2) The data which is read out is hexadecimal number, therefore, this must be converted to decimal number. You can do it easily using hexadecimal/decimal conversion table. (Fig. C13).
- 3) Substitute the read out data in to formula and calculate it.
- 4) Convert the result of calculation to hexadecimal value using conversion table.
- 5) Enter the result to EEPROM address. Item shows the contents of adjustment address, for example, R-Y WB 36 means R-Y white Balance at 3600 degree kelvin.

(For example)

ITEM: R-Y GC 36

FORMULA: $ADR06 + 1.283 \times (ADR03 - ADR06)$

EEPROM ADDRESS: 05

- 1) Read out the data
ADR06: Set the command to "04".
Set the address to "06".
Push the "SET" button.
Number which is indicated in "DATA" LED is a data of ADR06(Address "06") for example, if indicated data is "56", substitute "56" to ADR06.
As the same way, read out the data from address "03".
For example, if data which are read out are ADR03="6C", ADR06="56" above formula becomes :
 $R-Y GC 36 = 56 + 1.283 \times (6C - 56)$.

- 2) Convert the hexadecimal data into decimal number using conversion table. For example, "56" in hexadecimal is "86" in decimal from intersection of 5 and 6.
Substitute its to formula.
Therefore,
 $R-Y GC 36 = 86 + 1.283 \times (108 - 86)$
 $= 86 + 1.283 \times 22$
 $= 144.226 \approx 114$
- 3) Convert the result "114" to hexadecimal using conversion table (Fig.C13).
"114" decimal is "72" in hexadecim.
Write the "72" into EEPROM address "05".
* Set the command to "02".
* Set the address to "05".
* Set the data "72".
* Push the "SET" key.

NO.	ITEM	EEPROM ADDRESS	RESULT OF CALCULATION	FORMULA
1	R-Y WB 28	79		$ADR 77 + 0.35 \times (ADR 77 - ADR 71)$
2	R-Y WB 36	75		$ADR 77 - 0.469 \times (ADR 77 - ADR 71)$
3	R-Y WB 45	73		$ADR 77 - 1.031 \times (ADR 77 - ADR 71)$
4	R-Y WB 60	6F		$ADR 77 - 1.0 \times (ADR 77 - ADR 71)$
5	R-Y GC 28	07		$ADR 06 + 0.196 \times (ADR 03 - ADR 06)$
6	R-Y GC 36	05		$ADR 06 + 1.283 \times (ADR 03 - ADR 06)$
7	R-Y GC 45	04		$ADR 06 + 1.0 \times (ADR 03 - ADR 06)$
8	R-Y GC 60	02		$ADR 06 + 1.183 \times (ADR 03 - ADR 06)$
9	R-Y MAT 28	0E		$ADR 0D$
10	R-Y MAT 36	0C		$ADR 0D + 0.281 \times (ADR 0A - ADR 0D)$
11	R-Y MAT 45	0B		$ADR 0D + 1.0 \times (ADR 0A - ADR 0D)$
12	R-Y MAT 60	09		$ADR 0D + 1.0 \times (ADR 0A - ADR 0D)$
13	B-Y WB 28	78		$ADR 76 + 0.069 \times (ADR 76 - ADR 70)$
14	B-Y WB 36	74		$ADR 76 - 0.348 \times (ADR 76 - ADR 70)$
15	B-Y WB 45	72		$ADR 76 - 0.683 \times (ADR 76 - ADR 70)$
16	B-Y WB 60	6E		$ADR 76 - 1.326 \times (ADR 76 - ADR 70)$
17	B-Y GC 28	17		$ADR 16 + 1.222 \times (ADR 16 - ADR 13)$
18	B-Y GC 36	15		$ADR 16 - 0.717 \times (ADR 16 - ADR 13)$
19	B-Y GC 45	14		$ADR 16 - 1.0 \times (ADR 16 - ADR 13)$
20	B-Y GC 60	12		$ADR 16 - 1.0 \times (ADR 16 - ADR 13)$
21	B-Y MAT 28	1E		$ADR 1D$
22	B-Y MAT 36	1C		$ADR 1D + 1.199 \times (ADR 1A - ADR 1D)$
23	B-Y MAT 45	1B		$ADR 1D + 1.0 \times (ADR 1A - ADR 1D)$
24	B-Y MAT 60	19		$ADR 1D + 1.0 \times (ADR 1A - ADR 1D)$

Fig. C33 Calculation for Color Reproduction

24. AWB DATA SETTING

(How to calculate and enter the data)

- 1) Read the data from proper address of EEPROM, which is indicated in following formula column.
- 2) The data which is read out is hexadecimal number, therefore, this must be converted to decimal number. You can do it easily using hexadecimal/decimal conversion table. (Fig. C13)
- 3) Substitute the read out data in to formula and calculate it.
- 4) Convert the result of calculation to hexadecimal value using conversion table.
- 5) Enter the result to EEPROM address. Item shows the contents of adjustment address, for example, BH28 means 2800 degree kelvin.

(For example)

ITEM: BH 28

FORMULA: $ADR76 + 0.35X(ADR77 - ADR71)$

EEPROM ADDRESS: 6B

- 1) Read out the data.
 ADR76: Set the command to "04".
 Set the address to "76".
 Push the "SET" button.
 Number which is indicated in "DATA" LED is a data of ADR76(Address "76") for example, if indicated data is "6E", substitute "6E" to ADR76.
 As the same way, read out the data from address "70".
 For example, if data which are read out are ADR70="50", ADR76="6E" above formula becomes:
 $BH\ 28 = 6E + 1.047 \times (6E - 50)$
- 2) Convert the hexadecimal data into decimal number using conversion table (Fig.C13). For example, "50" in hexadecimal is "80" in decimal from intersection of 5 and 0. Substitute its to formula.
 Therefore,

$$\begin{aligned} BH\ 28 &= 110 + 1.047 \times (110 - 80) \\ &= 110 + 1.047 \times 30 \\ &= 141.41 \approx 141. \end{aligned}$$
- 3) Convert the result "141" to hexadecimal using conversion table (Fig.C13).
 "141" decimal is "8D" in hexadecimal.
 Write the "8D" into EEPROM address "6B".
 * Set the command to "02".
 * Set the address to "6B".
 * Set the data "8D".
 * Push the "SET" key.

NO.	ITEM	EEPROM ADDRESS	RESULT OF CALCULATION	FORMULA
1	BH 28	6B		$ADR\ 76 + 1.047 \times (ADR\ 76 - ADR\ 70)$
2	BH 30	67		$ADR\ 76 + 0.184 \times (ADR\ 76 - ADR\ 70)$
3	BH 36	63		$ADR\ 76 - 0.9 \times (ADR\ 76 - ADR\ 70)$
4	BH 45	5F		$ADR\ 76 - 0.378 \times (ADR\ 76 - ADR\ 70)$
5	BH 51	5B		$ADR\ 76 - 0.745 \times (ADR\ 76 - ADR\ 70)$
6	BH 60	57		$ADR\ 76 - 1.092 \times (ADR\ 76 - ADR\ 70)$
7	BL 28	6A		$ADR\ 76 - 0.162 \times (ADR\ 76 - ADR\ 70)$
8	BL 30	66		$ADR\ 76 - 0.277 \times (ADR\ 76 - ADR\ 70)$
9	BL 36	62		$ADR\ 76 - 0.090 \times (ADR\ 76 - ADR\ 70)$
10	BL 45	5E		$ADR\ 76 - 0.803 \times (ADR\ 76 - ADR\ 70)$
11	BL 51	5A		$ADR\ 76 - 1.161 \times (ADR\ 76 - ADR\ 70)$
12	BL 60	56		$ADR\ 76 - 1.812 \times (ADR\ 76 - ADR\ 70)$
13	RH 28	6D		$ADR\ 77 + 2.371 \times (ADR\ 77 - ADR\ 71)$
14	RH 30	69		$ADR\ 77 + 0.350 \times (ADR\ 77 - ADR\ 71)$
15	RH 36	65		$ADR\ 77 + 0.286 \times (ADR\ 77 - ADR\ 71)$
16	RH 45	61		$ADR\ 77 - 0.282 \times (ADR\ 77 - ADR\ 71)$
17	RH 51	5D		$ADR\ 77 - 0.556 \times (ADR\ 77 - ADR\ 71)$
18	RH 60	59		$ADR\ 77 - 0.703 \times (ADR\ 77 - ADR\ 71)$
19	RL 28	6C		$ADR\ 79 + 0.305 \times (ADR\ 77 - ADR\ 71)$
20	RL 30	68		$ADR\ 77 - 0.035 \times (ADR\ 77 - ADR\ 71)$
21	RL 36	64		$ADR\ 75 - 0.614 \times (ADR\ 77 - ADR\ 71)$
22	RL 45	60		$ADR\ 73 - 1.444 \times (ADR\ 77 - ADR\ 71)$
23	RL 51	5C		$ADR\ 71 - 2.005 \times (ADR\ 77 - ADR\ 71)$
24	RL 60	58		$ADR\ 6F - 2.133 \times (ADR\ 77 - ADR\ 71)$

Fig. C34

2-6-3. ELECTRICAL ADJUSTMENT
FOR E.V.F. SECTION

The following adjustments are for Electronic Viewfinder.

- (1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
- (2) The camera circuit must be completely signed before viewfinder adjustments are made.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 1 of P801	VR802	NO	BALL CHART
M. EQ.		SPEC.	
FREQUENCY COUNTER		15.9KHz+-0.1KHz	

NOTE:
P801,VR802: E.V.F. C.B.A.

- (1) Connect the Frequency counter Pin 1 of P801, use DC.
- (2) Adjust the H-OSC(VR802) so that the frequency is 15.9+-0.1KHz.

2. CENTERING ADJUSTMENT

- (1) Aim the camera at the registration chart.
- (2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

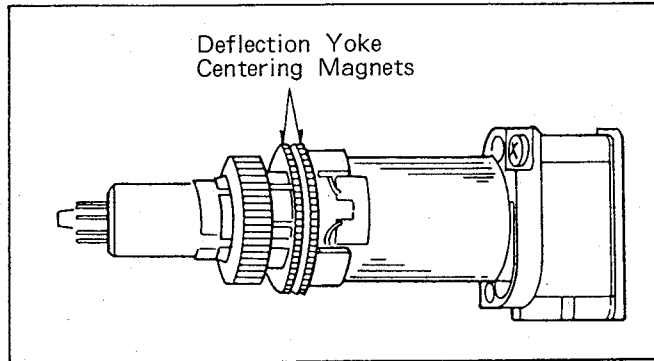


Fig. E1

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR803	NO	BALL CHART
M. EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

NOTE:
VR803: E.V.F. C.B.A.

- (1) Aim the camera at the Ball chart.
- (2) Adjust the focus control(VR803) for best resolution in the viewfinder.

4. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR801	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE:
VR801: E.V.F. C.B.A.

- (1) Aim the camera at the gray scale chart.
- (2) Adjust the Vertical Size(VR801) so the Vertical Size is correct and the picture does not roll as shown in Fig.E2.

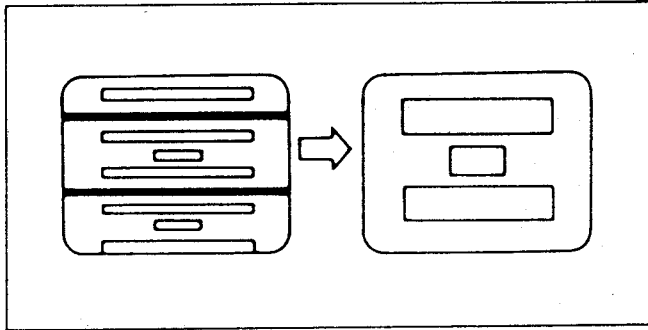


Fig. E2

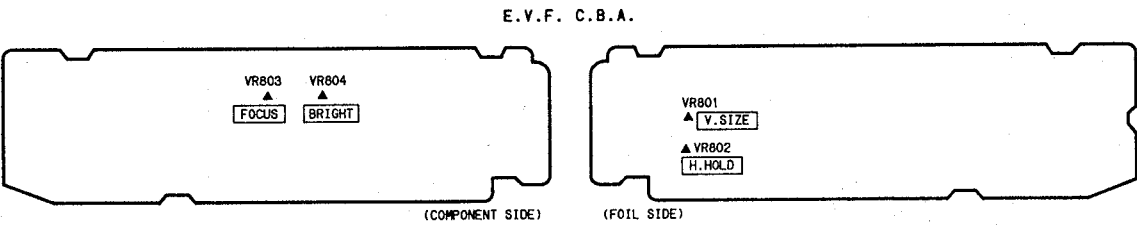
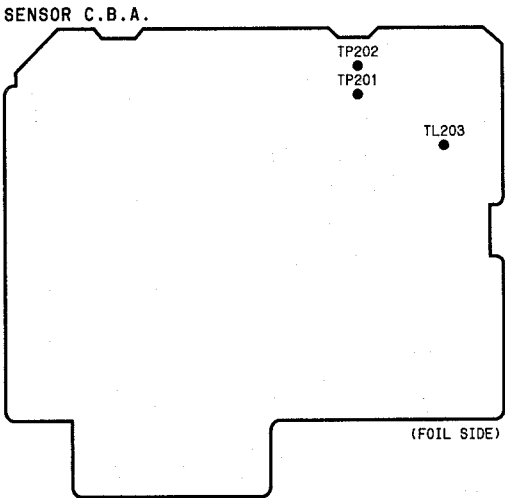
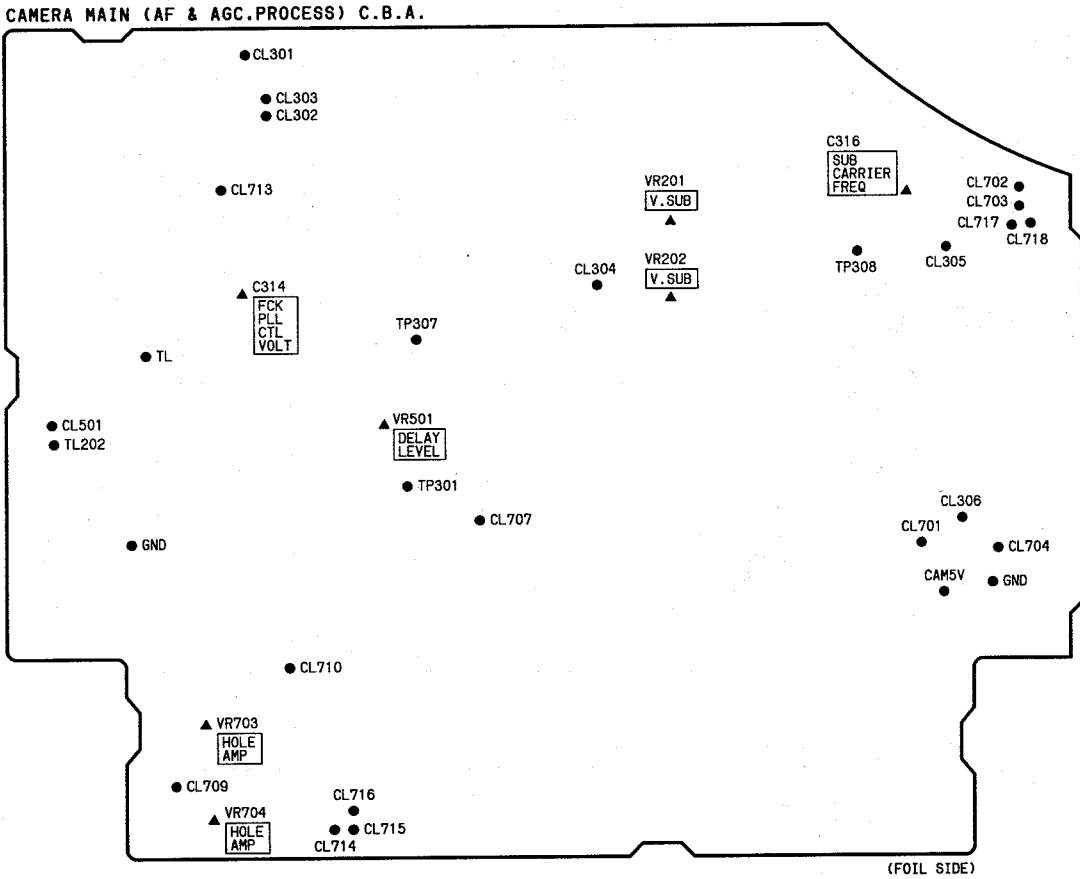
5. BRIGHTNESS ADJUSTMENT

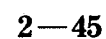
TP	ADJ.	LENS CAP	CHART
	VR804	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		NATURAL GRADATION	

NOTE:
VR804: E.V.F. C.B.A.

- (1) Aim the camera at gray scale chart.
- (2) Adjust the brightness control(VR804) so that the black and white bars in the E.V.F. screen are the same as they are in the monitor TV screen.

LOCATION OF TEST POINTS & CONTROLS (1)





1. Remove the casing panels
(Refer to the disassemble method)
2. Connect the extension cable if necessary.
VFK0668
VFK0670
VFK0710
VFK0711

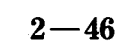
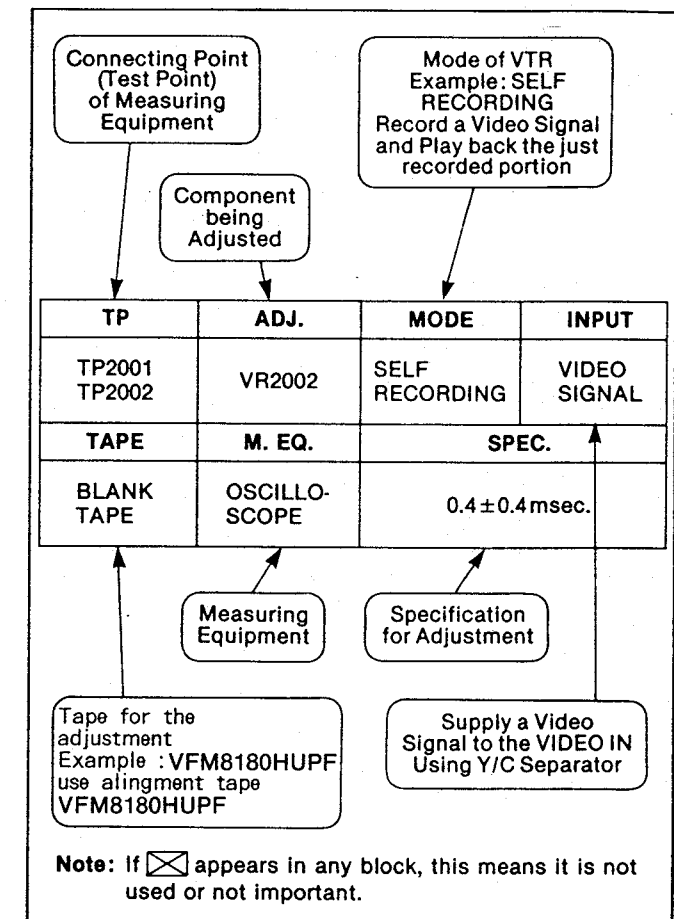


Fig. V1

FOR TRIGGERING OF THE OSCILLOSCOPE

To trigger the Oscilloscope, the following test point is used.

H. rate : TP3501 (video output)
V. rate : TP2001 (Head Switching signal)

Note:

Before the electrical adjustment, set the Unit as following conditions except for especial instructions in each adjustment item.

1. Tape Speed Selector...SP position.
2. Digital Tracking SW...ON position.
3. S-VHS System Selector...Auto position.
4. EDIT SW...OFF position.

POWER SECTION

1. REG. 5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1001(HOT) TP1005(GND)	VR1001	CAMERA REC	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	D.V.M.	4.86+/-0.020V	

Note:

Connect the EVF, Camera Unit and Camera Operation Unit (Side Case (R) and (L) unit) to the VTR Unit.
Turn the Power sw on.

1. Connect the D.V.M. to TP1001(HOT) and TP1005(GND) Adjust the VR1001 so that D.V.M. becomes 4.86+/-0.020V.

2. CAMERA 9V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1002(HOT) TP1005(GND)	VR1002	CAMERA RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	D.V.M.	8.6 +0.07V -0.03V	

Note:

Connect the EVF, Camera Unit and Camera Operation Unit (Side Case (R) and (L) unit) to the VTR Unit.
Turn the power sw on.

1. Connect the D.V.M. to TP1002(HOT) and TP1005 (GND) Adjust the VR1002 so that D.V.M. becomes 8.67V~8.57V.

SERVO SECTION

3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 VIDEO OUT (TP3501)	VR2001	PLAY	
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE (VFM8180HUPF)	OSCILLO- SCOPE	6.5H±0.5H	

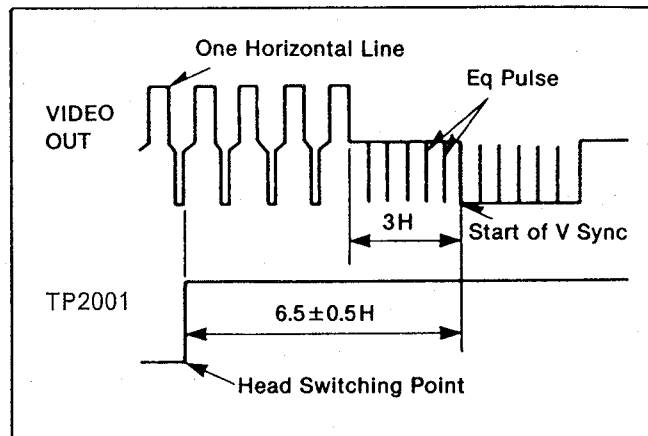


Fig. V2

LUMINANCE & CHROMINANCE SECTION

4. S-VHS MODULATOR LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3008	VR3006	S-VHS STOP	COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE	0.34+/-0.01Vp-p	

(In case of shooting colour bar by camera)

1. Aim the camera at colour bar.
2. Connect the oscilloscope to TP3002.
3. Adjust the VR3005 so that signal level becomes 0.34+/-0.01Vp-p.

(In case of use of signal generator)

1. Connect the jumper wire between TP3003-5 and P3003-3.
2. Supply the Y signal of pattern generator to P3003-2.
3. Adjust the VR3006 so that signal level becomes 0.34-0.01Vp-p.

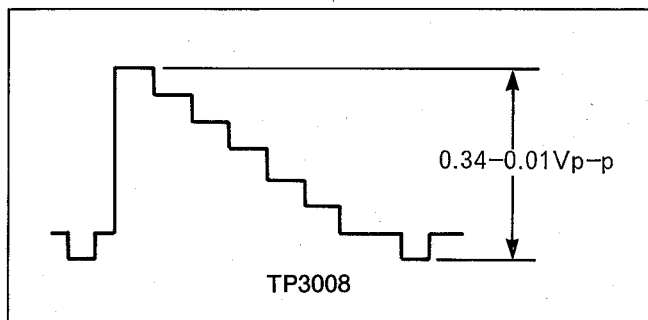


Fig. V3

5. E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT (TP3501)	VR3501	S-VHS STOP	COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE	$A = 1.0 \pm 0.05V_{p-p}$	

Note:

Video out should be terminated with 75 ohm or should be connected with TV.

(In case of shooting colour bar by camera)

1. Aim the camera at colour bar chart.
2. Connect the oscilloscope to video output. (TP3501)
3. Adjust the VR3501 so that Y output (White portion of colour bar) becomes $1.0 \pm 0.05V_{p-p}$.

(In case of use of pattern generator)

1. Connect the jumper wire between P3003-5 and P3003-3.
2. Supply the Y signal of pattern generator to P3003-2.
3. Adjust the VR3501 so that level becomes $1.0 \pm 0.05V_{p-p}$.

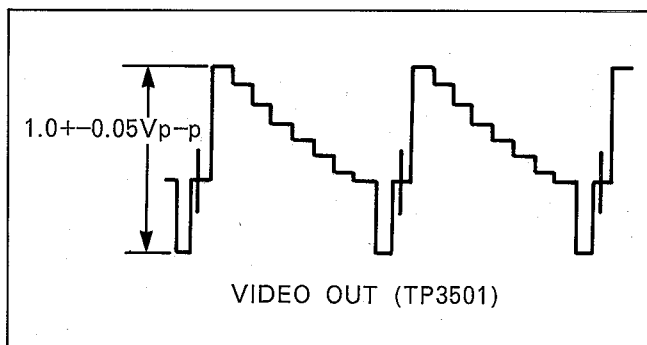


Fig. V4

6. R-Y AND B-Y CLAMP ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3802 VR3803	STOP	
TAPE	M. EQ.	SPEC.	
	VECTOR-SCOPE	VECTOR COMES CENTRE	

1. Set the IRIS control to Manual condition. (IRIS LED is turned off)
2. Close the IRIS with (-) button.
3. Connect the vectorscope to Video Out.
4. Adjust VR3802 and VR3803 alternately so that the vector comes centre.

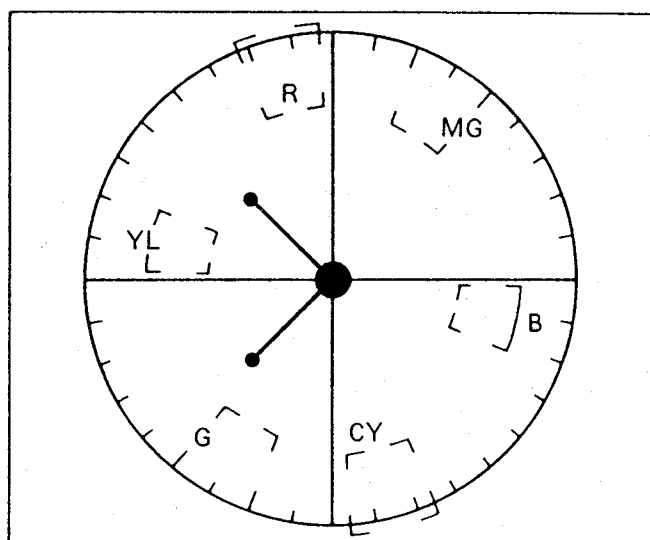


Fig. V5

7. RECORDING CURRENT ADJUSTMENT

7-1. REC CHROMA LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5004 (HOT) TP5005 (GND)	VR8001	S-VHS REC/PLAY (SP)	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLOSCOPE	$34 \pm 2mV_{p-p}$	

1. Set the unit to S-VHS mode.
2. Connect the oscilloscope to TP5004 (HOT) and TP5005 (GND).
3. Aim the camera at colour bar.
4. Make recording with SP mode.
5. Eliminate luminance signal by turning VR3001.
6. Adjust the VR8001 so that chroma level becomes $34 \pm 2mV_{p-p}$.

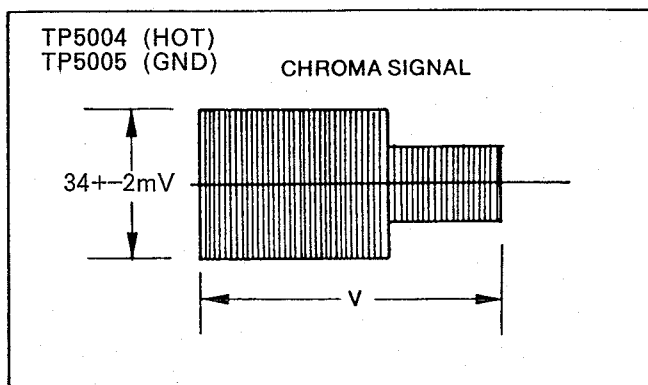


Fig. V6

9. 4.43MHz ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3503	C8038	PLAY	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	FREQ. COUNTER	4.433619MHz±50Hz	

1. Playback the non recorded portion on the cassette tape.
2. Connect the frequency counter to TP3503.
3. Adjust C8038 so that reading of frequency counter is 4.433619MHz±50Hz.

7-2. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5004 (HOT) TP5005 (GND)	VR3001	S-VHS REC/PLAY (SP)	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO- SCOPE	110±5mVp-p	

1. Set the unit to S-VHS mode.
2. Connect the oscilloscope to TP5004 (HOT) and TP5005 (GND).
3. Aim the camera at colour bar.
4. Make recording with SP mode.
5. Adjust the VR3001 so that luminance level becomes 110±5mVp-p.

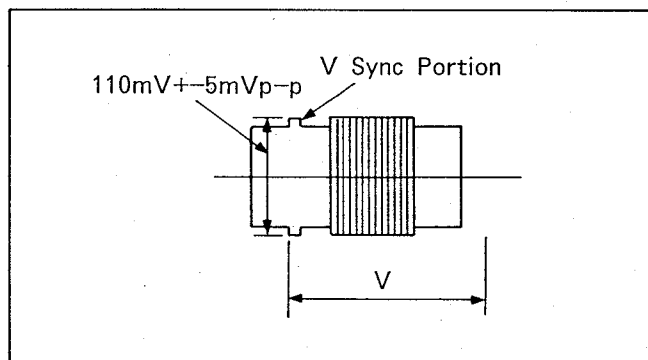


Fig. V7

10. CNR ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8003	VR8006 VR8007	SELF RECORDING (S-VHS MODE)	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO- SCOPE	"A" IS MINIMIZED	

Note:

Before this adjustment, must be complete 4.43MHz Adjustment.

1. Aim the camera at colour bar chart.
2. Set the unit to S-VHS mode and recording with SP mode.
3. Connect the oscilloscope to TP8003.
4. Playback the just recorded portion.
5. Adjust the VR8006 and VR8007 so that signal "A" is minimized.

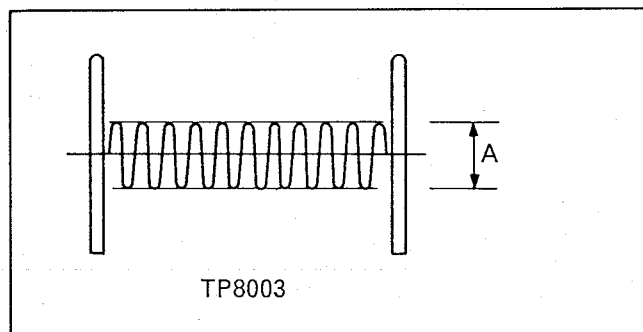


Fig. V8

8. SUB EMPHASIS LIMITER BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3003	VR3003	S-VHS STOP	
TAPE	M. EQ.	SPEC.	
	D.V.M.	3.2±0.1V	

11. YNR ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3001	VR3002	VHS SELF RECORDING	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO- SCOPE	SIGNAL IS MINIMIZED (LESS THAN 100mV)	

1. Aim the camera at colour bar chart.
2. Record it with VHS SP mode.
3. Connect the oscilloscope to TP3001.
4. Playback just recorded portion.
5. Adjust VR3002 so that signal is minimized.

12. S-VHS VIDEO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3007	S-VHS SELF RECORDING	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLACK TAPE	OSCILLO- SCOPE	A: $1.0 \pm 0.05V_{p-p}$ B: $0.5 \pm 0.15V_{p-p}$	

1. Aim the camera at colour bar chart.
2. Record it for while with S-VHS SP mode.
3. Connect the oscilloscope to Video out.
4. Playback just recorded portion.
5. Adjust VR3007 so that signal level become A: $1.0 \pm 0.05V_{p-p}$, B: $0.5 \pm 0.15V_{p-p}$.

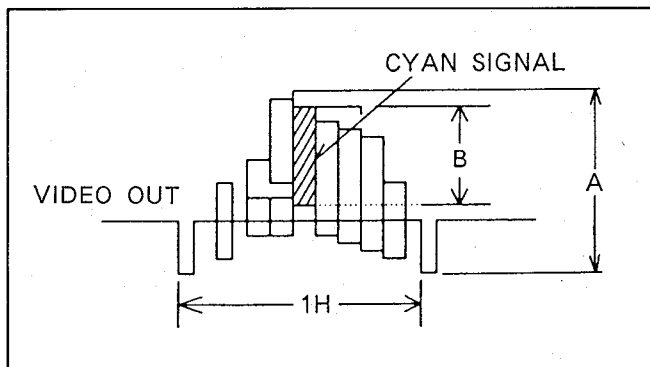


Fig. V9

13. CCD LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
S-VHS CHROMA OUT	VR3503	S-VHS SELF RECORDING	COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO- SCOPE	"A" $\div$ "B"	

1. Aim the camera at colour bar chart.
2. Record the colour bar with S-VHS LP mode.
3. Connect the oscilloscope to S-VHS CHROMA OUT.
4. Playback just recorded portion and set the pause mode.
5. Adjust VR3503 so that level "A" and "B" of signal become same level.

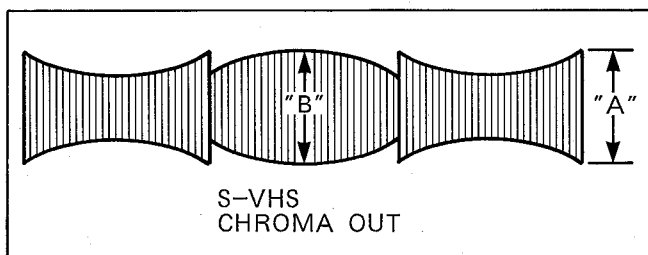


Fig. V10

14. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT FOR S-VHS MODE

TP	ADJ.	MODE	INPUT
S-VHS LUMI OUT	VR5001	S-VHS SELF RECORDING (SP)	VIDEO SWEEP SIGNAL
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	VIDEO SWEEP/ OSCILLO- SCOPE	A = $-6 \pm 1dB$ (56~71%)	

Note:

Edit switch must be off.

1. Set the sweep generator output as shown below.

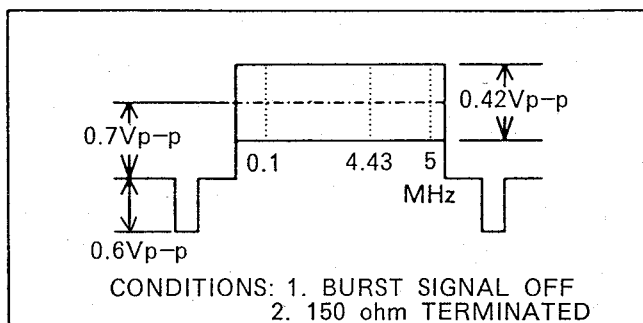


Fig. V11

- Set the unit to S-VHS mode.
- Connect the jumper wire between P3003-5 and P3003-3.
- Supply sweep signal to TP3001.
- Record it for a while.
- Playback just recorded portion.
- Adjust VR5001 so that level at 4MHz is within spec. as shown in Fig. V12.

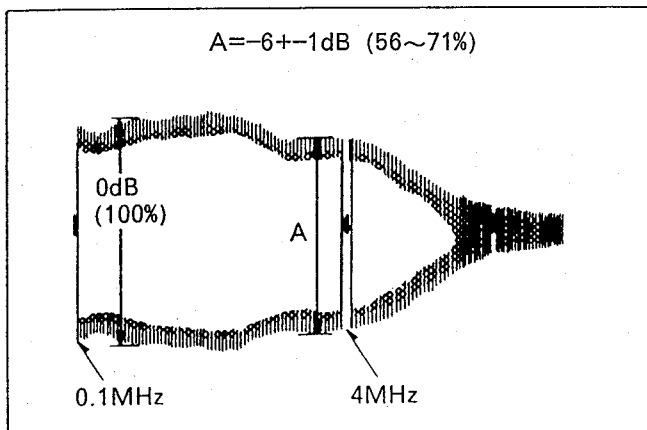


Fig. V12

15. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT FOR VHS MODE

TP	ADJ.	MODE	INPUT
S-VHS LUMI OUT	VR5002	VHS SELF RECORDING (SP)	VIDEO SWEEP SIGNAL
TAPE	M. EQ.	SPEC.	
VHS BLANK TAPE	VIDEO SWEEP/ OSCILLOSCOPE	$A = 0 \pm 1\text{dB}$	

Note:

Edit switch must be off.

- Set the sweep generator output as shown below.

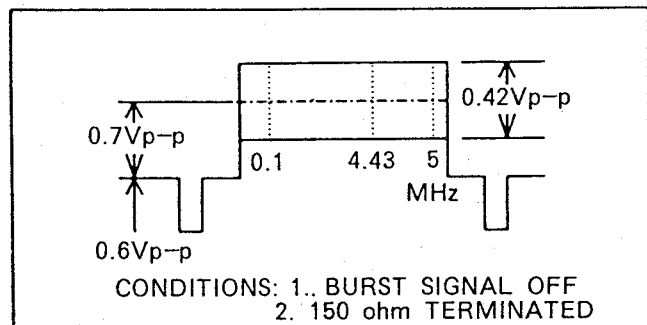


Fig. V13

- Set the unit to VHS mode.
- Connect the jumper wire between P3003-5 and P3003-3.
- Supply sweep signal to P3003-2.
- Record it for a while.
- Playback just recorded portion.
- Adjust VR5002 so that level at 2MHz is within spec. as shown in Fig.V14.

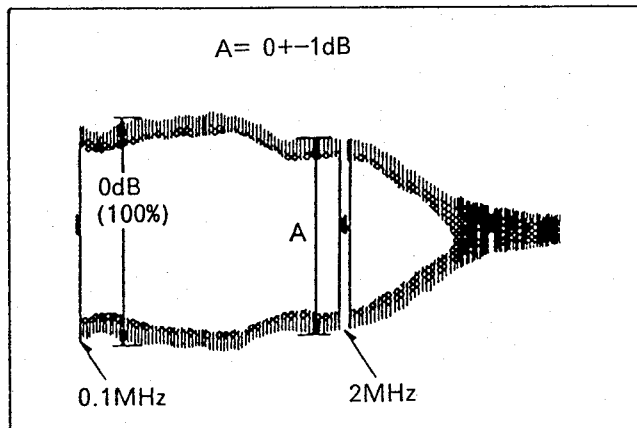


Fig. V14

16. Y LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3802	VR3804	S-VHS STOP	COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE	$1.0 \pm 0.1\text{Vp-p}$	

- Aim the camera at Gray Scale Chart.
- Connect the oscilloscope to TP3802.
- Adjust VR3804 so that luminance level becomes $1.0 \pm 0.1\text{Vp-p}$.

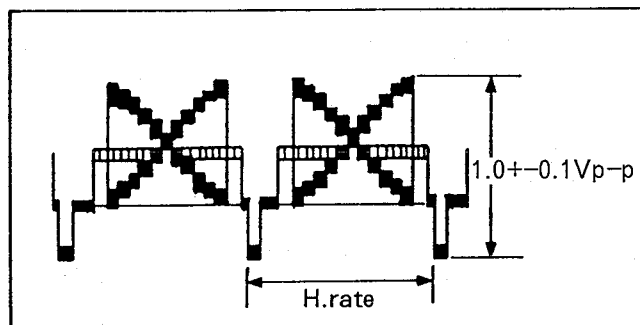


Fig. V16

AUDIO SECTION

17. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4001 (HOT) TP4002 (GND)	VR4002	REC	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	2.7mVrms $\pm$ 0.1mVrms	

18. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001	VHS SELF RECORDING	1kHz AUDIO -70dB SIGNAL/ VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	SIGNAL GENERATOR/V.T.V.M.	EE LEVEL=-8.0 $\pm$ 2dB PB LEVEL=EE LEVEL $\pm$ 0.5dB	

Note:

Audio select SW must be normal

1. Supply the audio signal (1KHz/-70dB sine-wave) to audio circuit through the MIC Input Jack.
2. Set the audio select SW to Normal position.
3. Adjust VR4001 so that the level is EE Level (-8 $\pm$ 2dB) $\pm$ 0.5dB.

HI-FI AUDIO SECTION

19. Hi-Fi AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5003 (HOT) TP5005 (GND)	VR5004	S-VHS RECORDING	
TAPE	M. EQ.	SPEC.	
S-VHS BLANKTAPE	OSCILLOSCOPE	200 $\pm$ 5mVp-p	

1. Connect the OSCILLOSCOPE to TP5003 (HOT) and TP5005 (GND).
2. Adjust VR5004 so that the Audio recording current becomes 200 $\pm$ 5mVp-p as shown below.

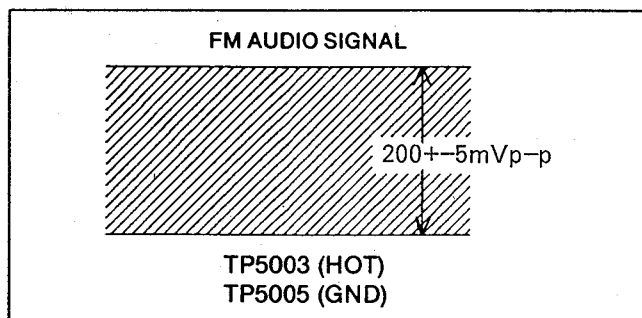


Fig. V17

20. AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5012 TP1501	VR5003	SELF RECORDING	1kHz, -10dB AUDIO SIG.
TAPE	M. EQ.	SPEC.	
BLANK TAPE	SIGNAL GENERATOR/OSCILLOSCOPE	DC LEVEL=2V	

Note1

Before this adjustment, Tape interchangeability Adjustment must be always completed.

Note2

To achieve this adjustment, the luminance recording current adjustment should be performed as follows.

First connect the oscilloscope to TP5004 (HOT) and TP5005 (GND) and then adjust VR3005 for 115mVp-p.(refer to Luminance Recording Current Adjustment)

After this adjustment, the luminance recording current must be returned to original position again.

1. Supply the audio signal(1KHz/-10dB sine wave) to MIC INPUT JACK and record it.
2. Set the Audio Select SW to "STEREO" position.
3. Play back the just recorded portion.
4. Connect the oscilloscope to TP1501.
5. Preadjust VR5003 until the DC voltage is changed into low level (Approx. 0V) at TP1501.
6. Then slowly adjust VR5003 so that the DC voltage comes at 2V as shown below.

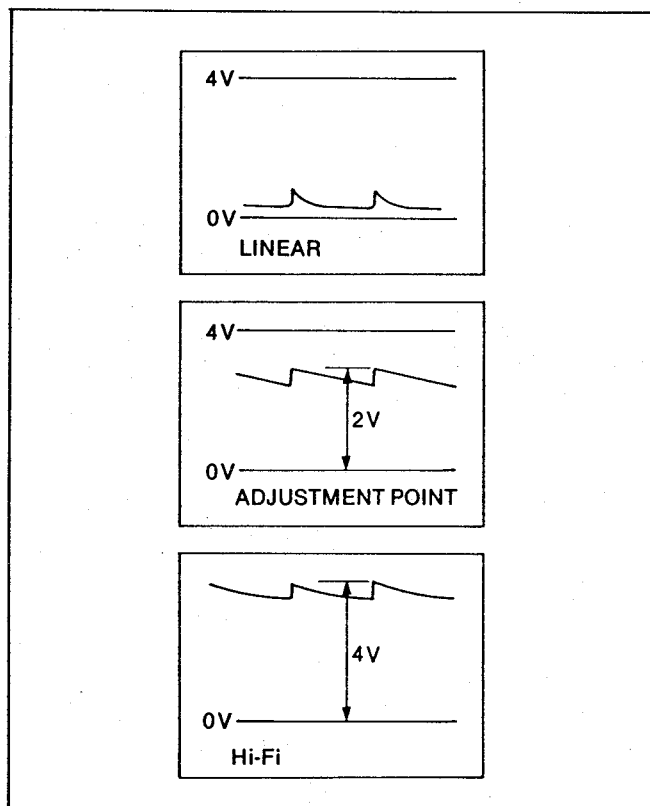


Fig. V18

SYSTEM CONTROL SECTION

21. CHARACTER POSITION ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR TV	C6023	STOP	COLOUR BAR
TAPE	M. EQ.	SPEC.	
	MONITOR TV		

1. Connect the EVF unit to the VTR unit.
2. Connect the jumper wire between P3003-5 and P3003-3.
3. Supply the colour bar signal to P3003-2.
4. Adjust the C6023 so that the character position is shown below.

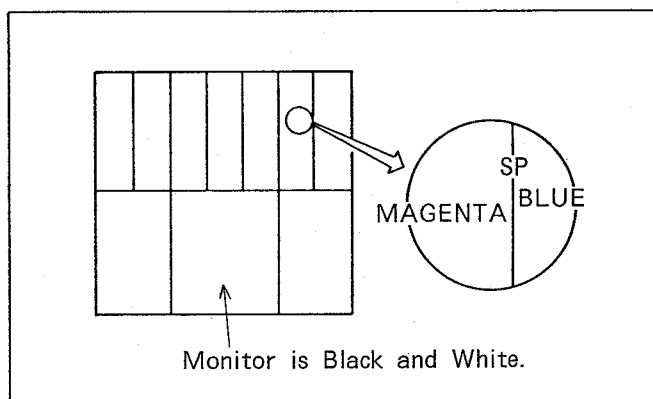


Fig. V19

22. UNDER CUT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6001	VR6001	REC	BATTERY TERMINAL (+) and (-)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE/DC POWER SUPPLY/D.V.M.		

Note1:
Do not connect AC Adaptor, connect a DC Power Supply to the Battery terminal (+), (-) then Supply 5.8V ~ 5.73V.

Note2:
Connect the EVF, Camera Unit and Camera Operation Unit (Side Case (R) and (L) Unit) to the VTR Unit.

1. Turn VR6001 until pulse "B" becomes nothing, (When just pulse "B" is nothing, stop it).

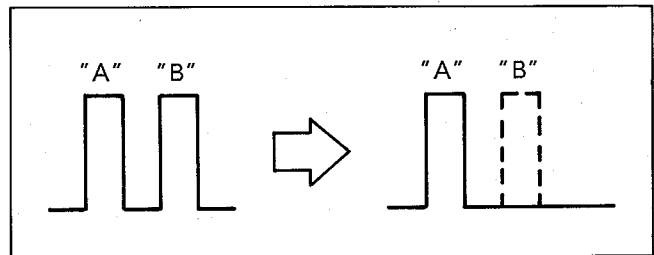


Fig. V20

23. DISPLAY MICROPROCESSOR FREQ. ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6501	C6509	STOP	
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER	327680+/-1.6Hz	

1. Connect the jumper wire through diode (MA165) between TEST 2 and SCAN 3 as shown in Fig.V21.
2. Adjust the C6509 so the reading of frequency counter is 327680+/-1.6Hz.

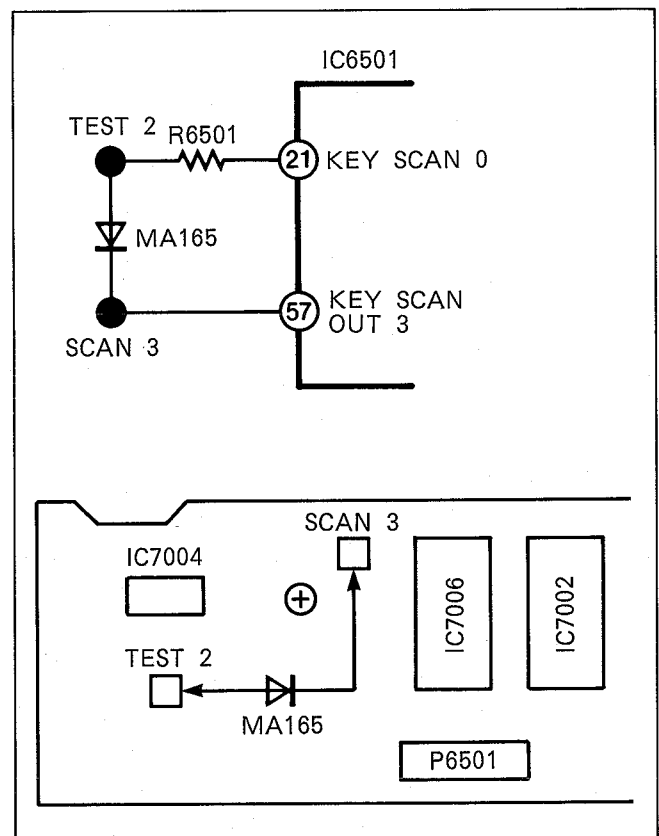


Fig. V21

24. VITC SIGNAL LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3801	S-VHS REC • PAUSE	GRAY SCALE CHART
TAPE	M. EQ.	SPEC.	
	VITC GENERATOR/ OSCILLO- SCOPE	V/S 1.8 ± 0.07 ($540 \pm 20 \text{mVp-p}$)	

1. Insert the plug of VITC Generator Cord into the Character Generator Terminal.
2. Aim the Camera at Gray Scale Chart.
3. Set the unit to S-VHS Mode and set to recording mode.
4. Adjust the VR3801 so that ratio of V and S becomes 1.8 ± 0.07 as shown below.

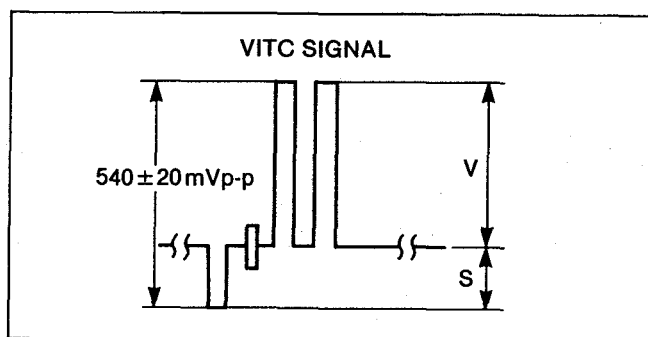
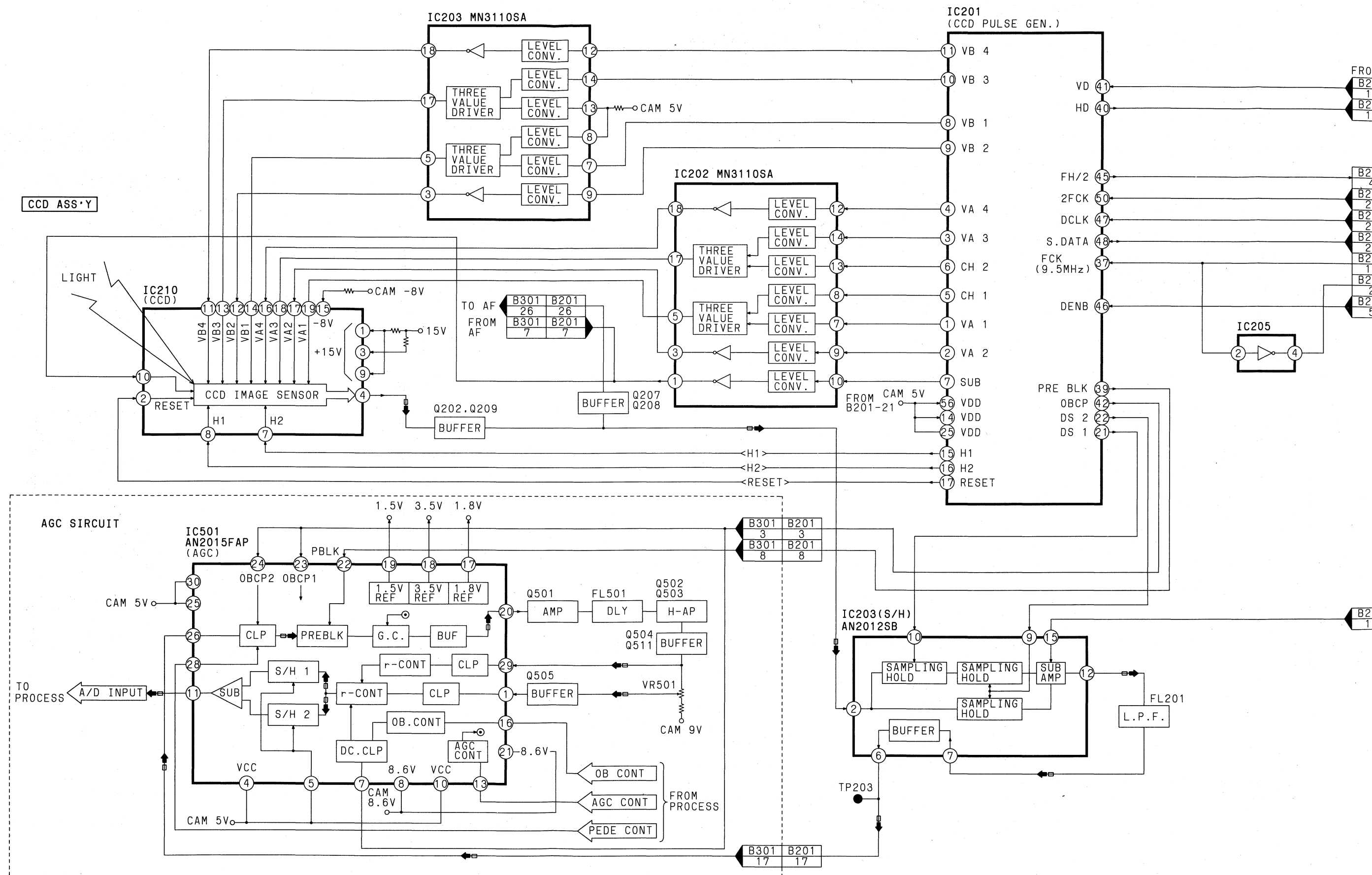


Fig. V22

SECTION 3 BLOCK DIAGRAM & SCHEMATIC DIAGRAM

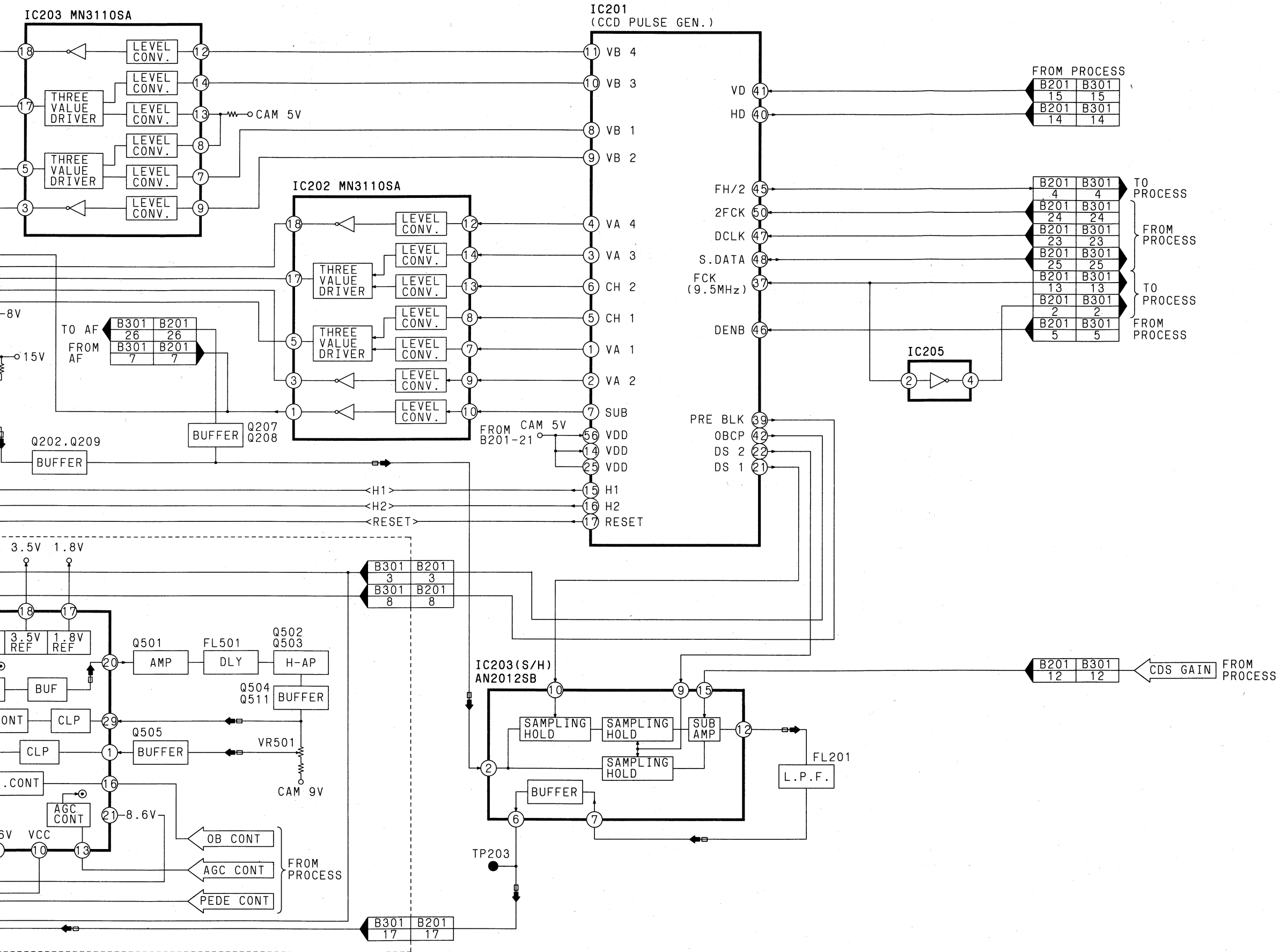
3-1. CCD DRIVE BLOCK DIAGRAM

← PRE VIDEO SIGNAL

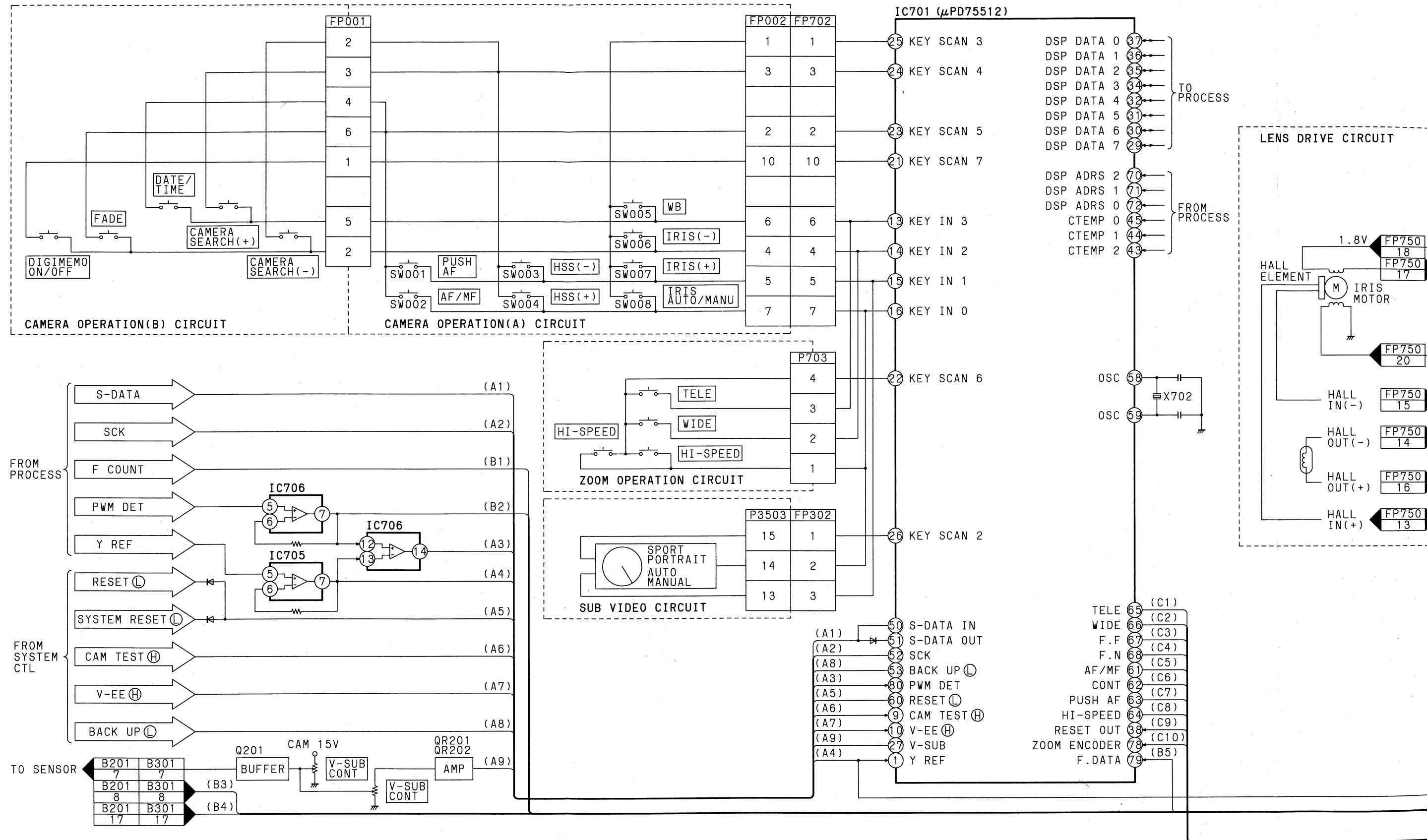


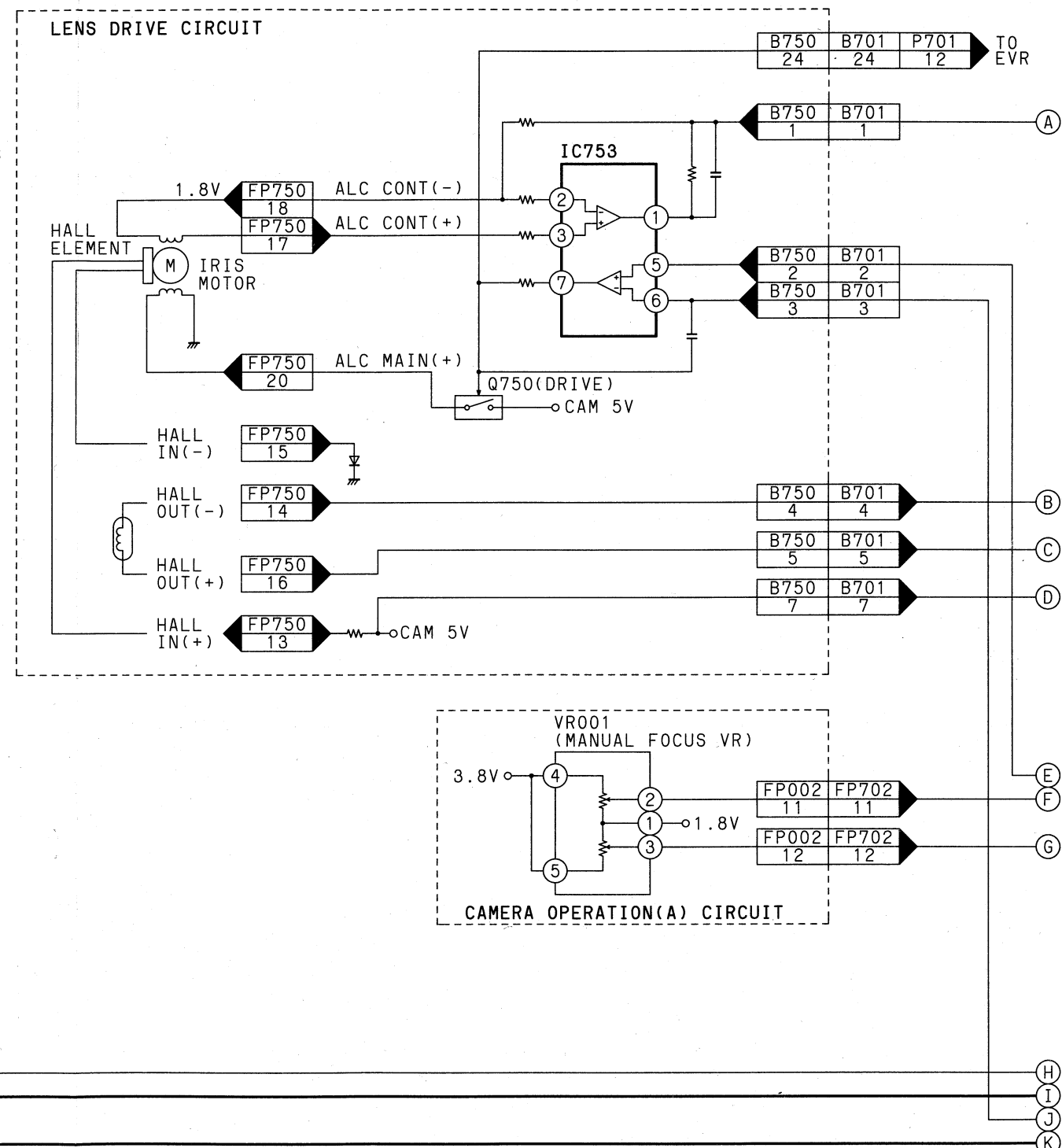
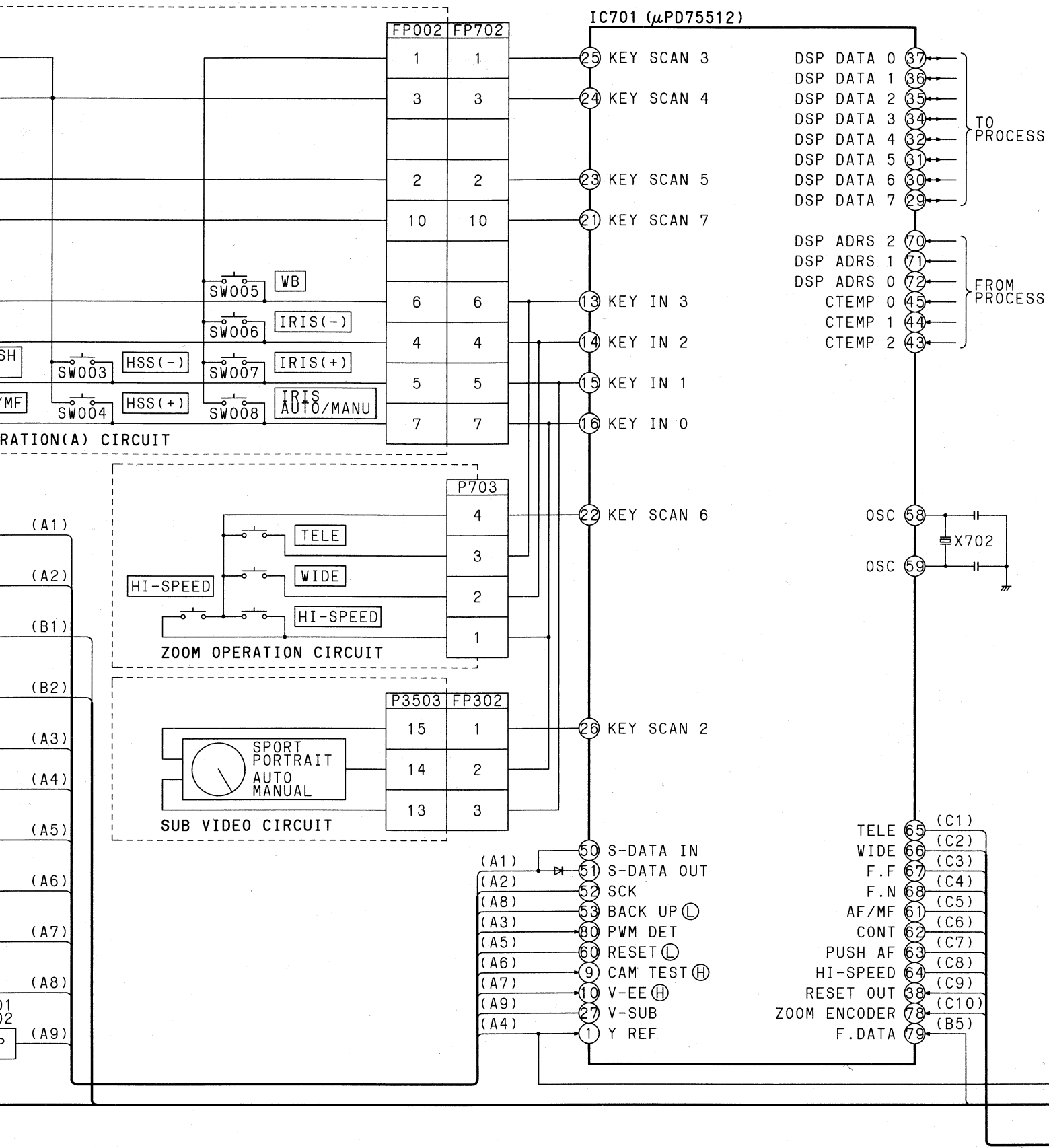
AM

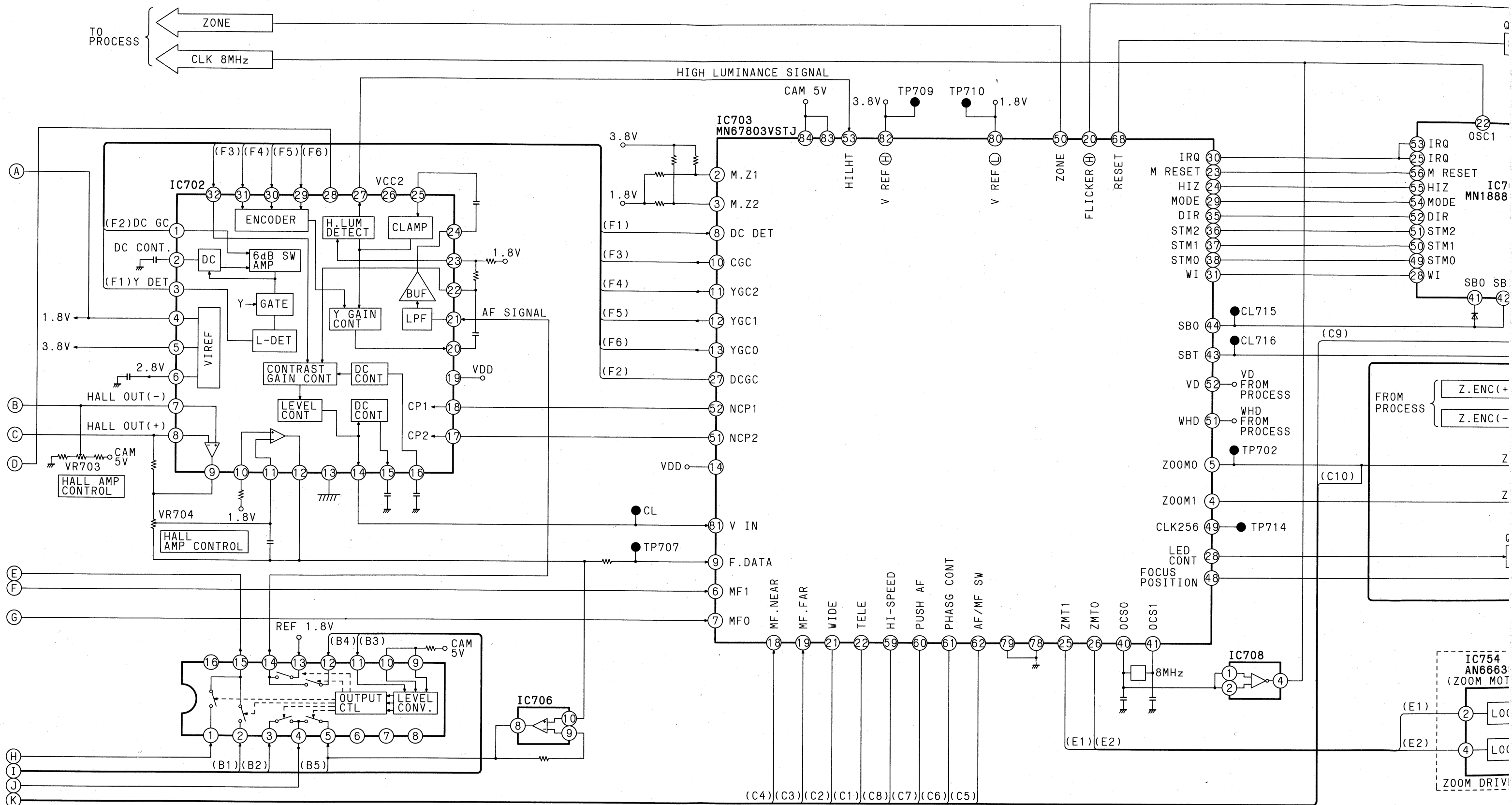
← PRE VIDEO SIGNAL

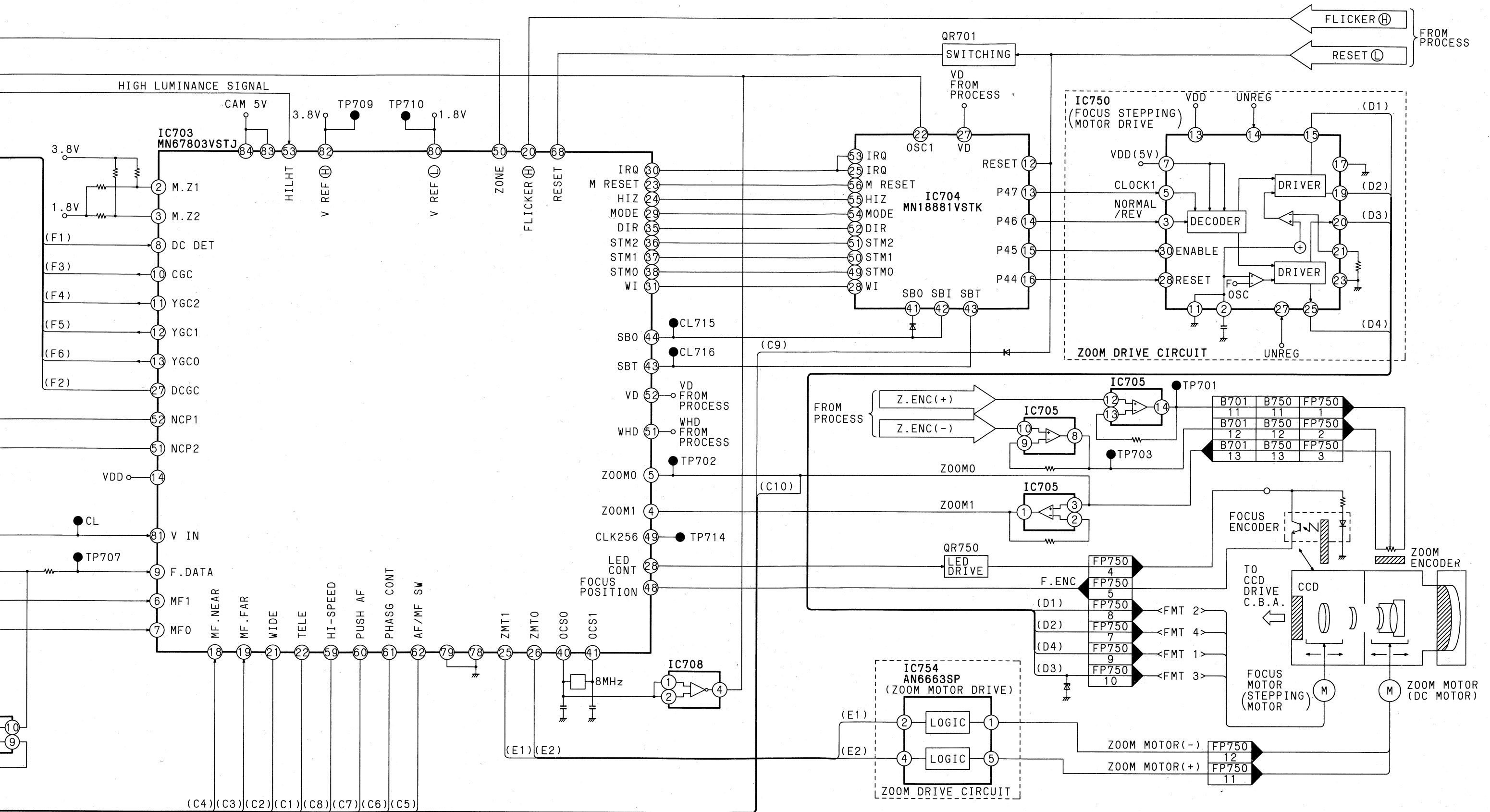


3-2. AUTO FOCUS BLOCK DIAGRAM

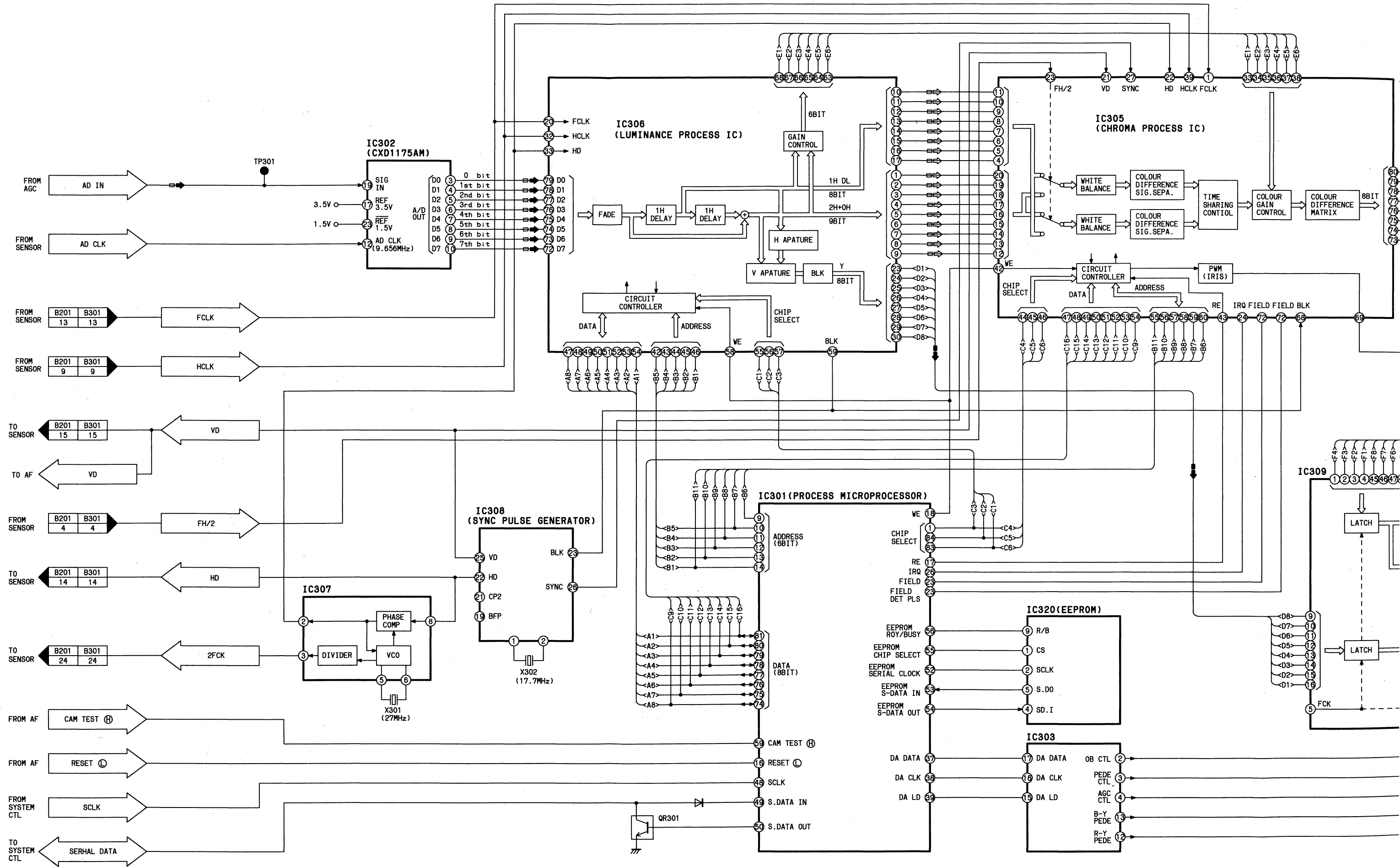


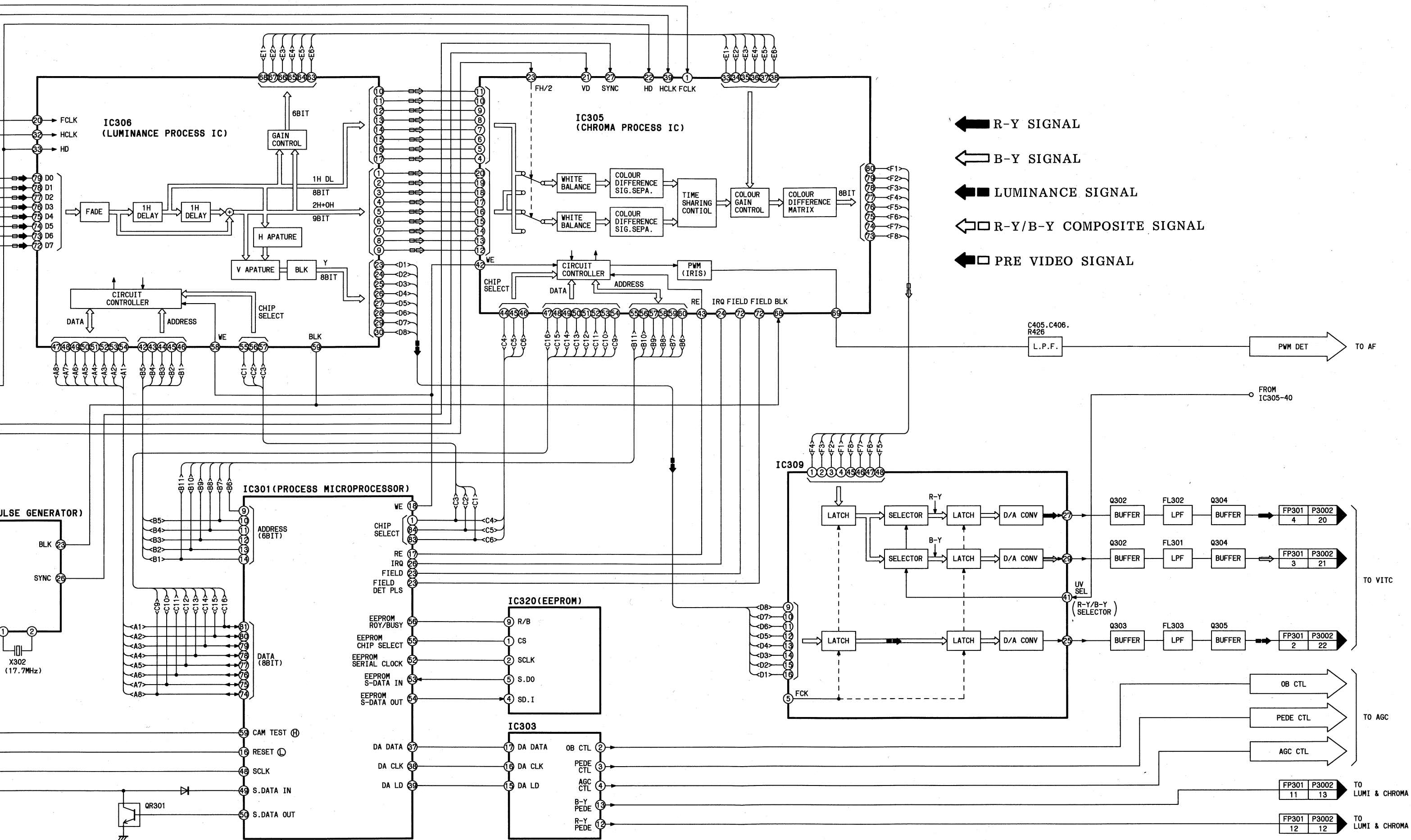




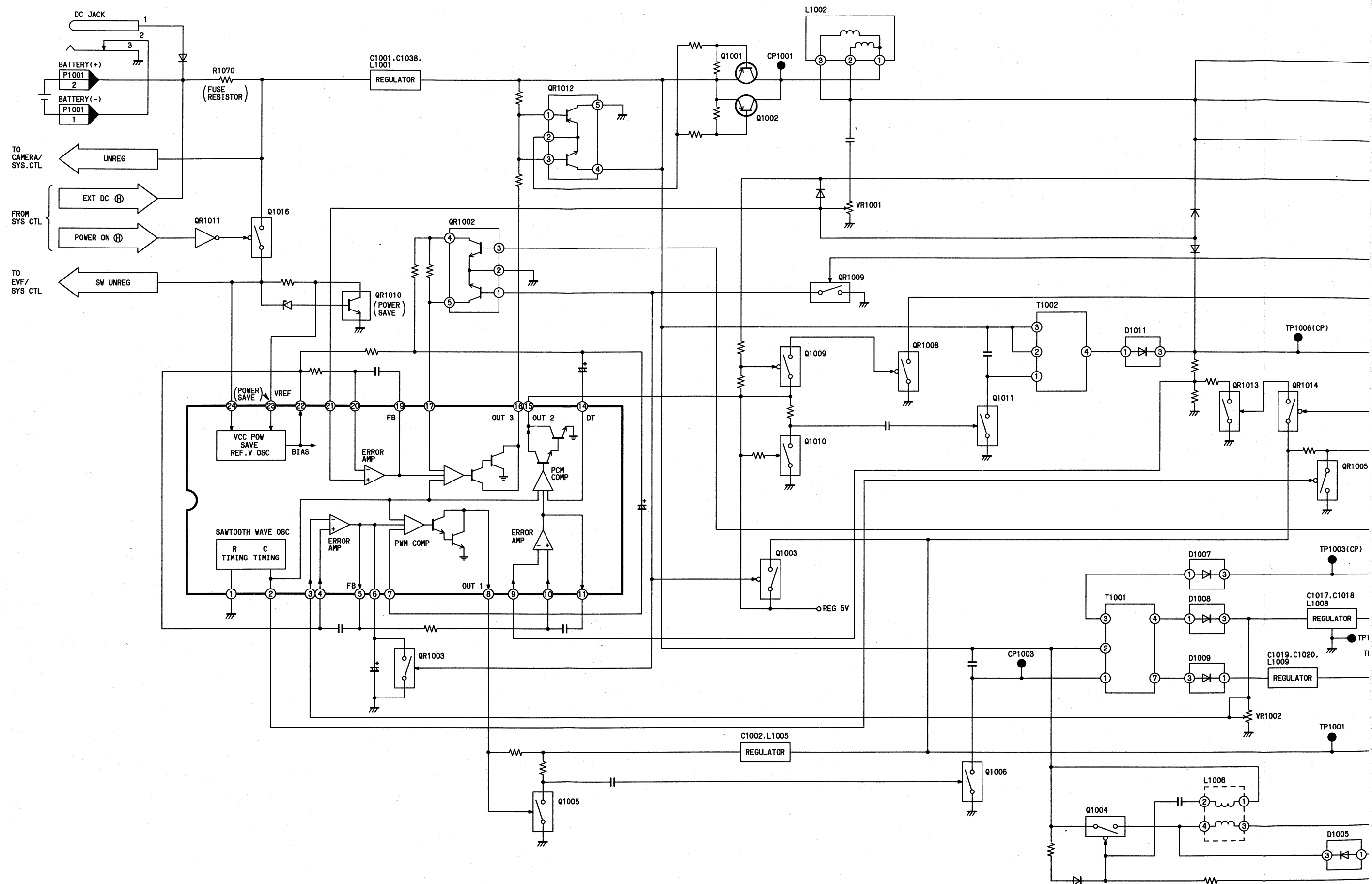


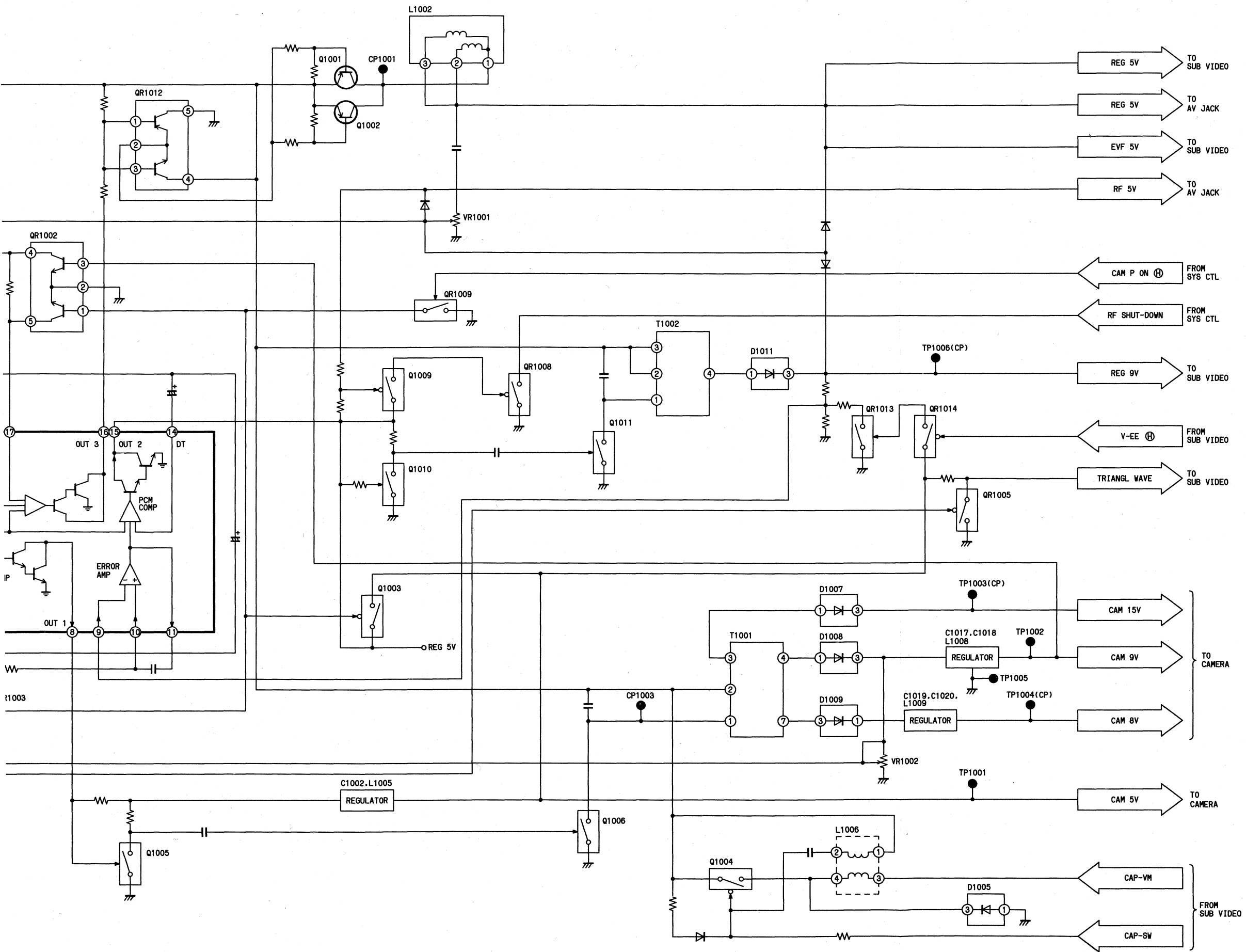
3.3. PROCESS BLOCK DIAGRAM



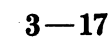


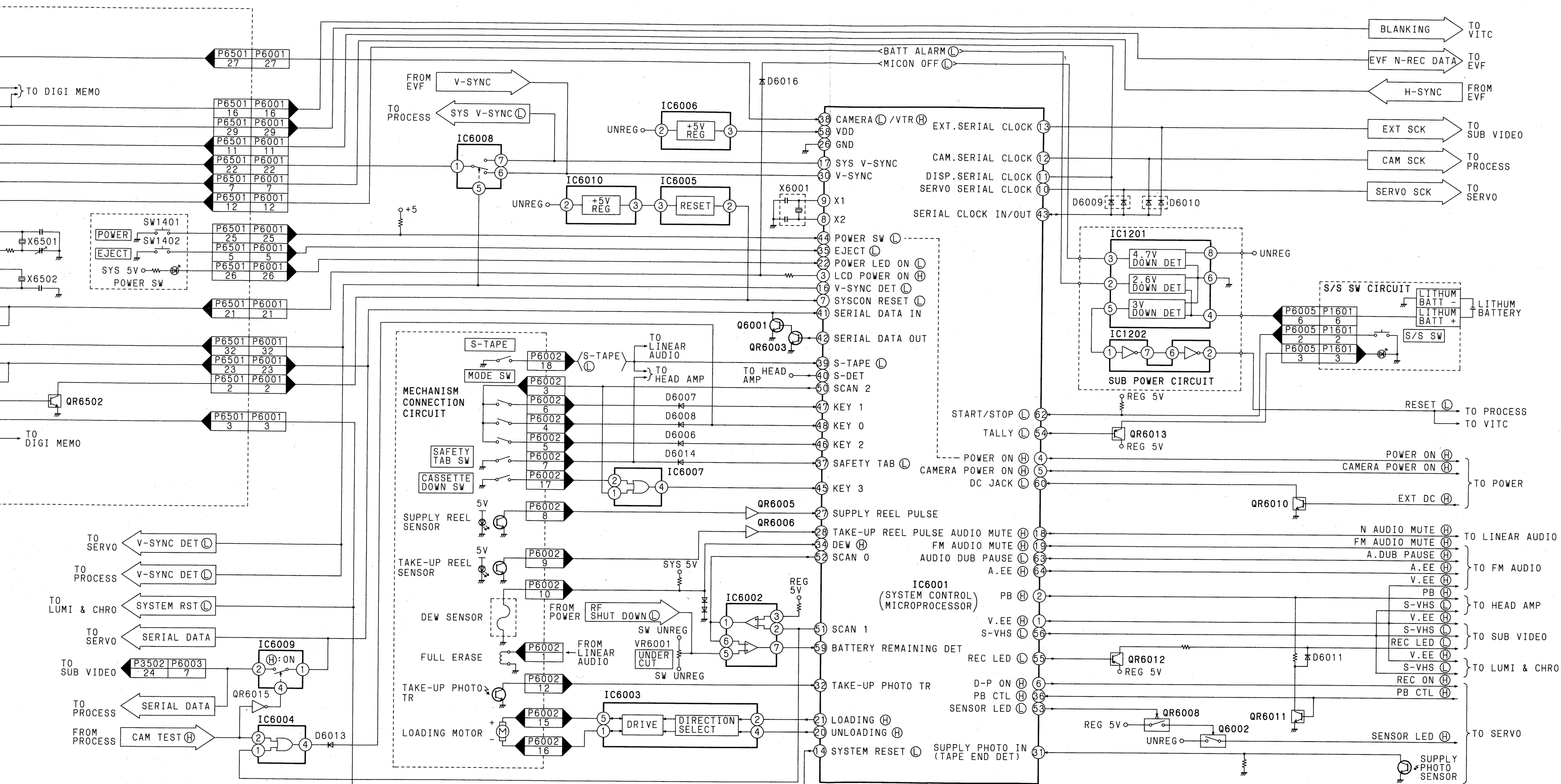
3-4. POWER BLOCK DIAGRAM



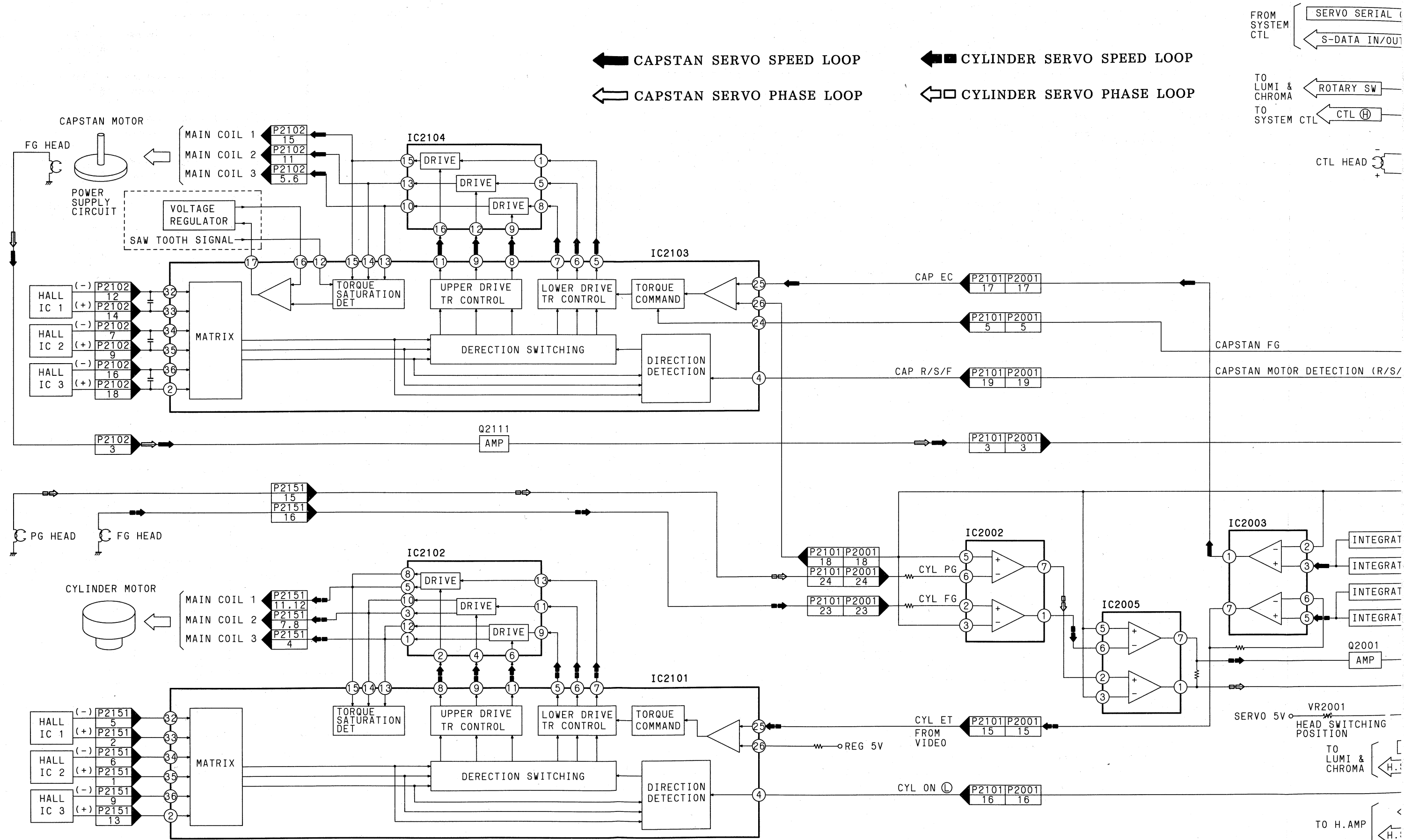


3—16

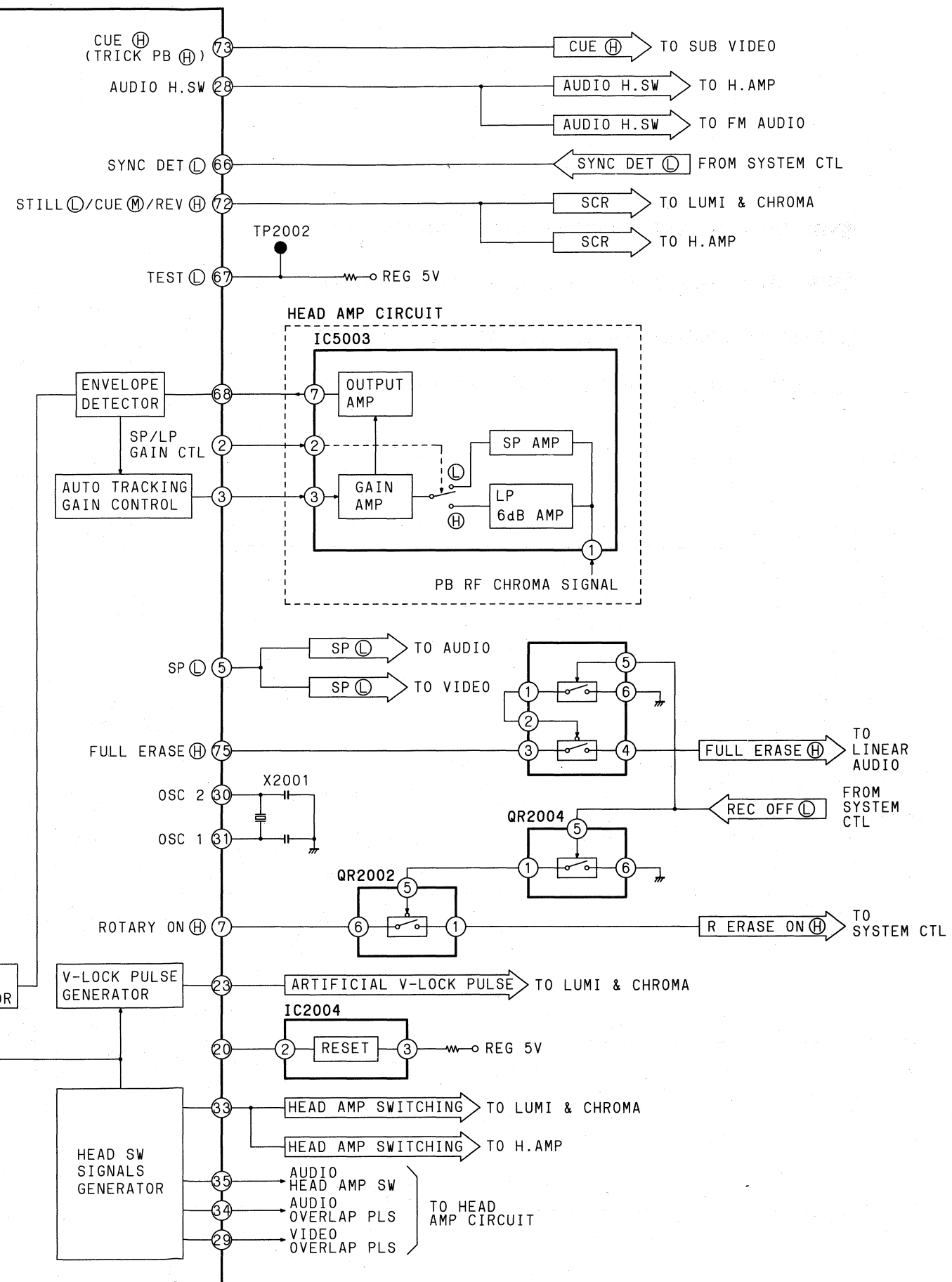
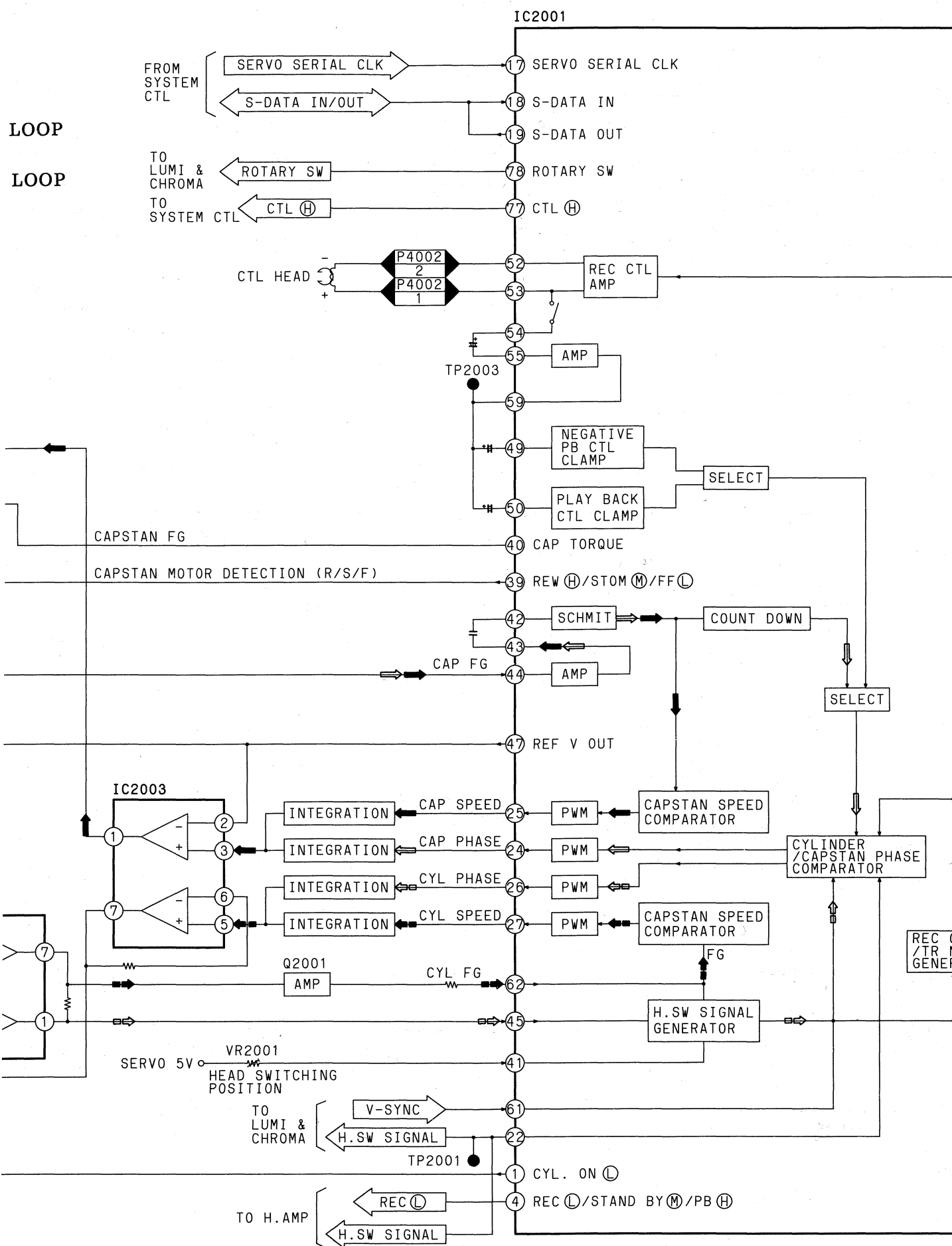




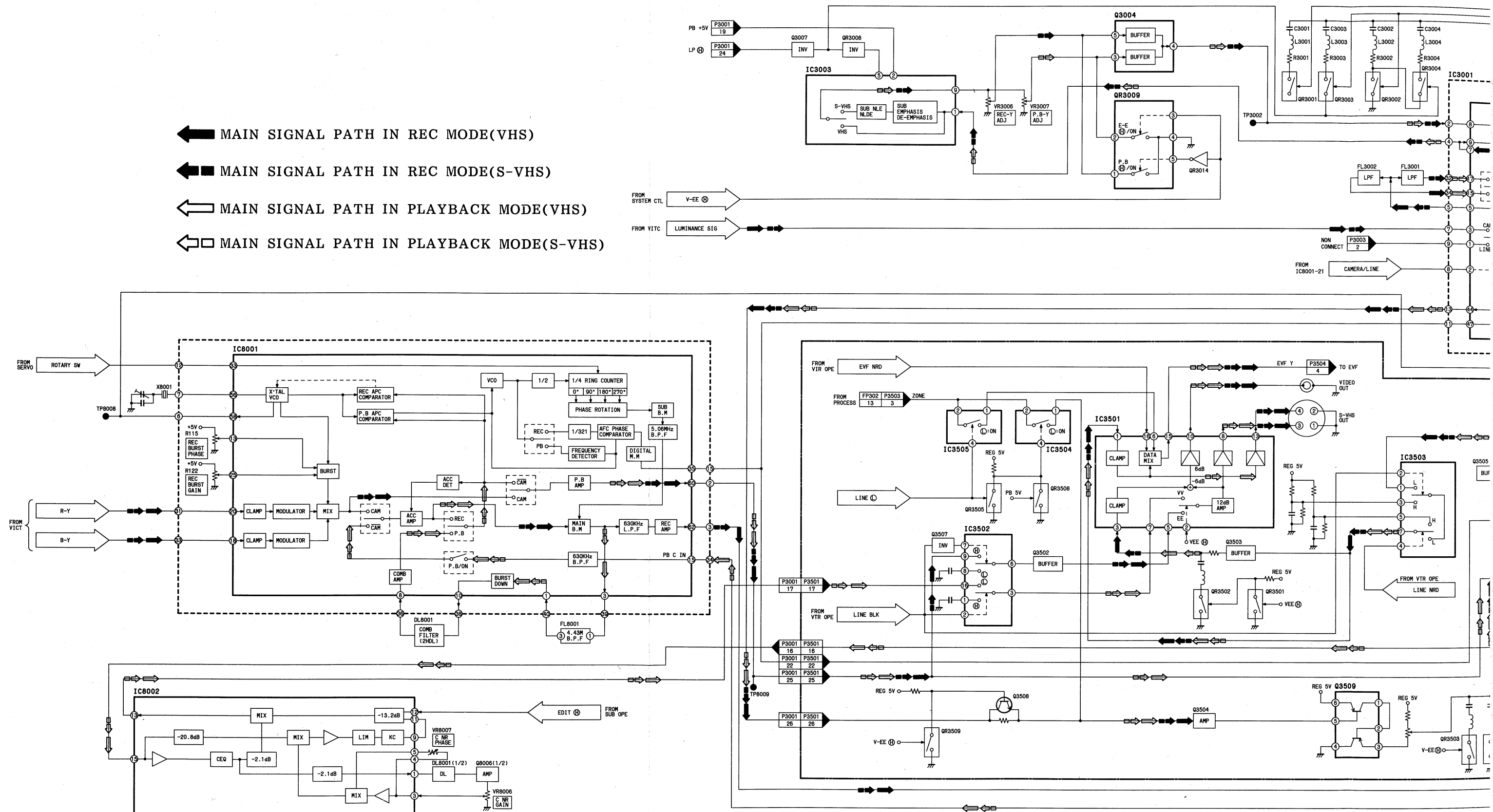
3-6. SERVO BLOCK DIAGRAM

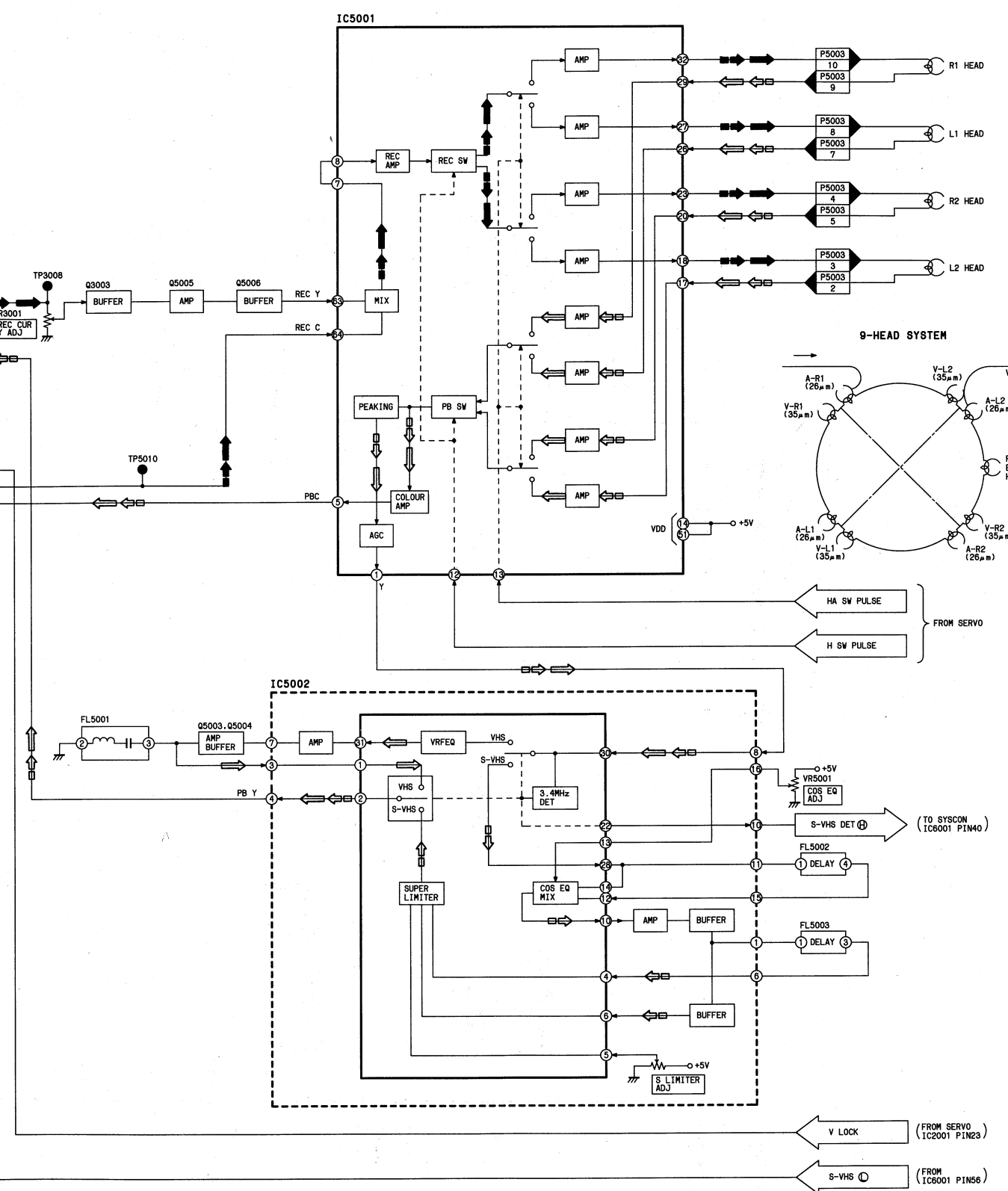
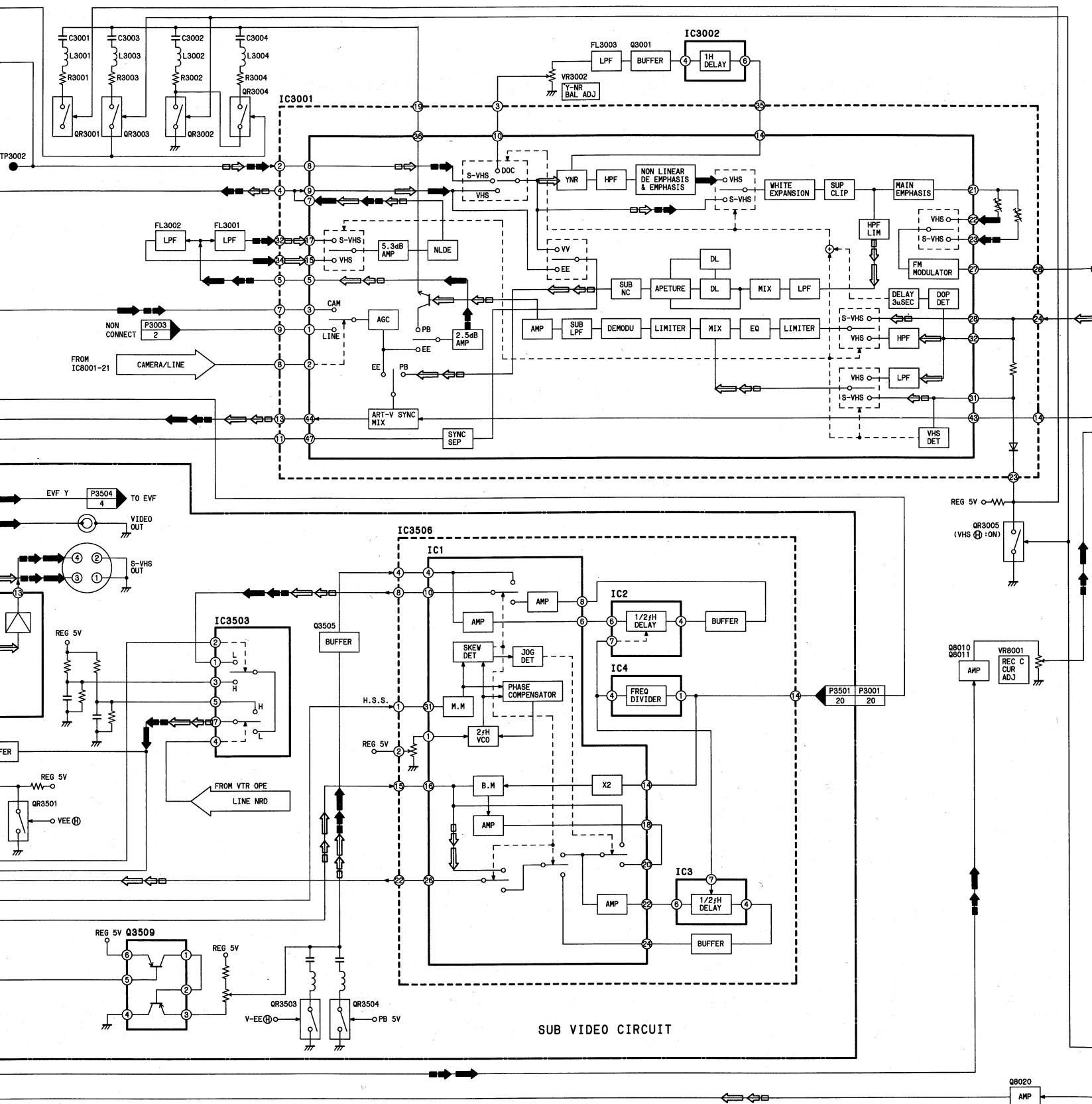


LOOP
LOOP

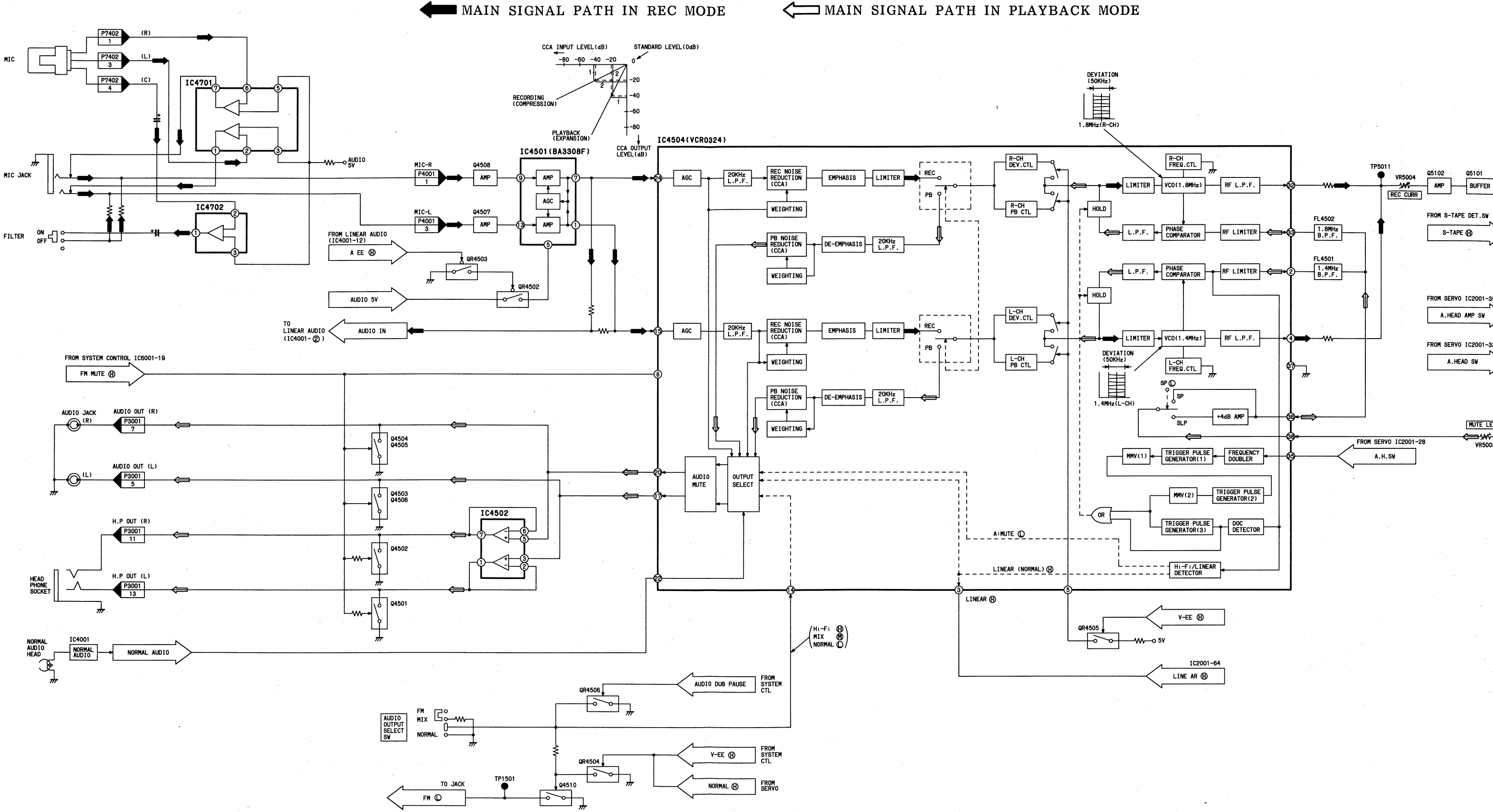


3-7. LUMINANCE & CHROMINANCE BLOCK DIAGRAM



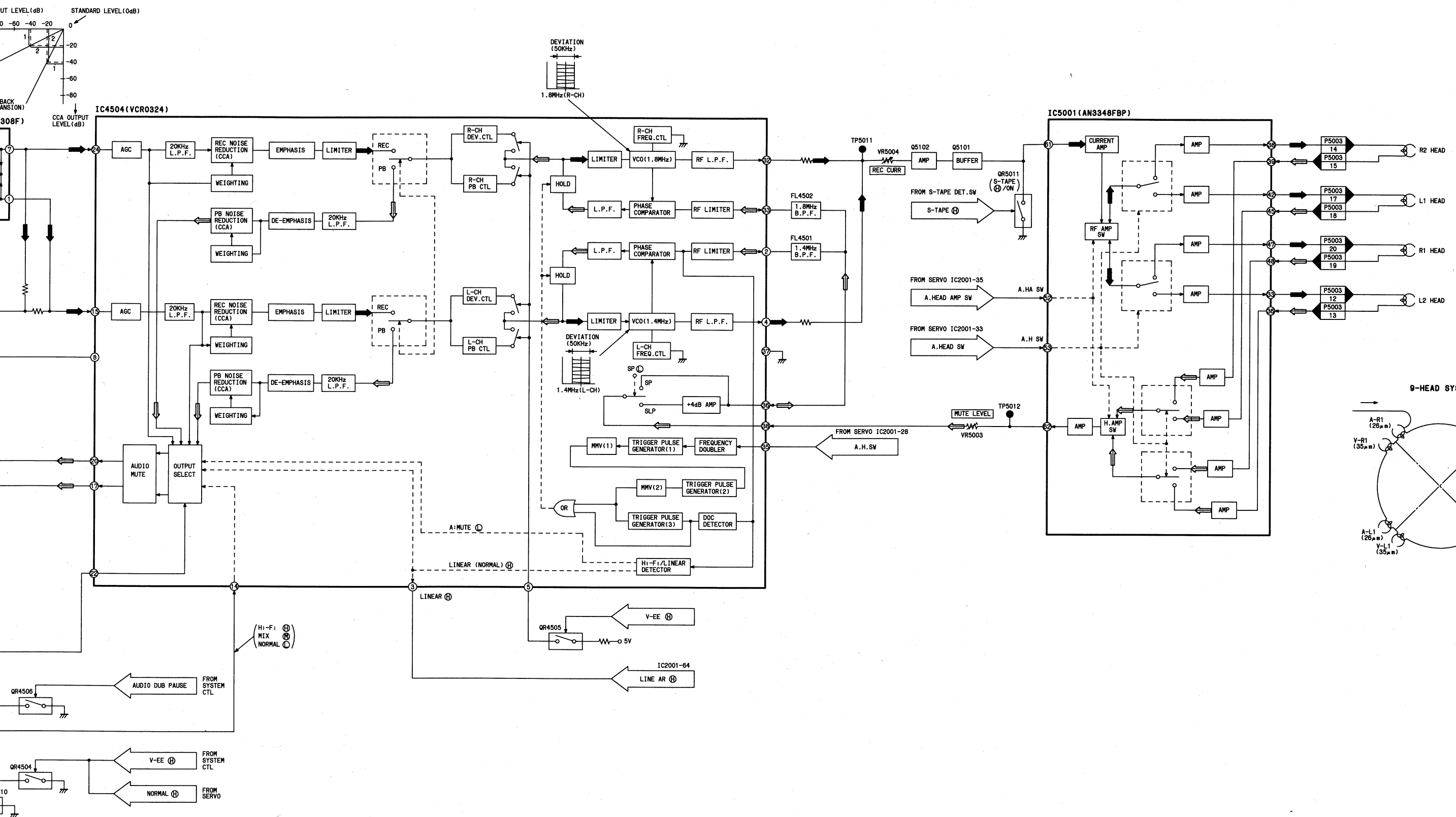


3-8. HI-FI AUDIO BLOCK DIAGRAM

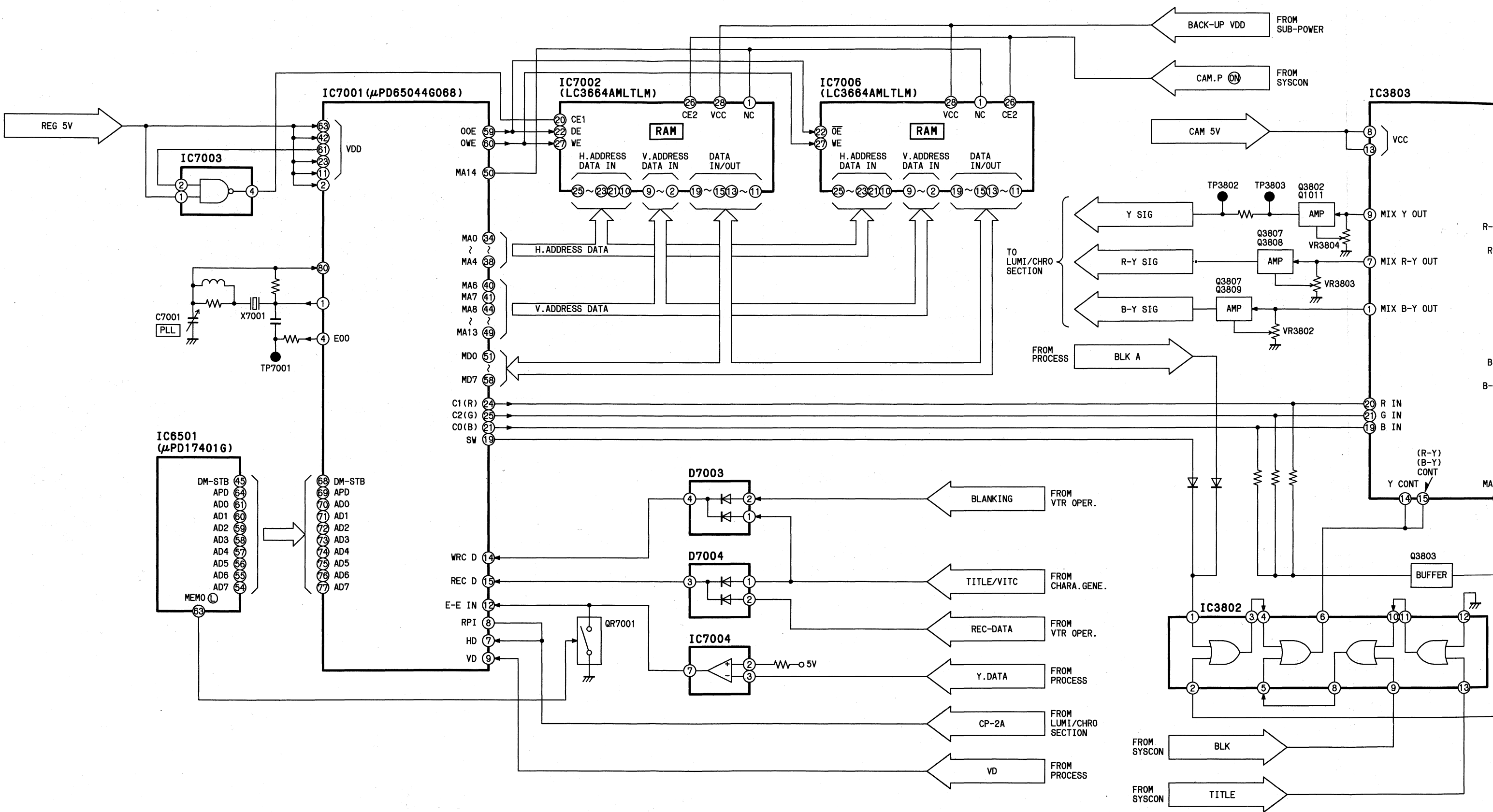


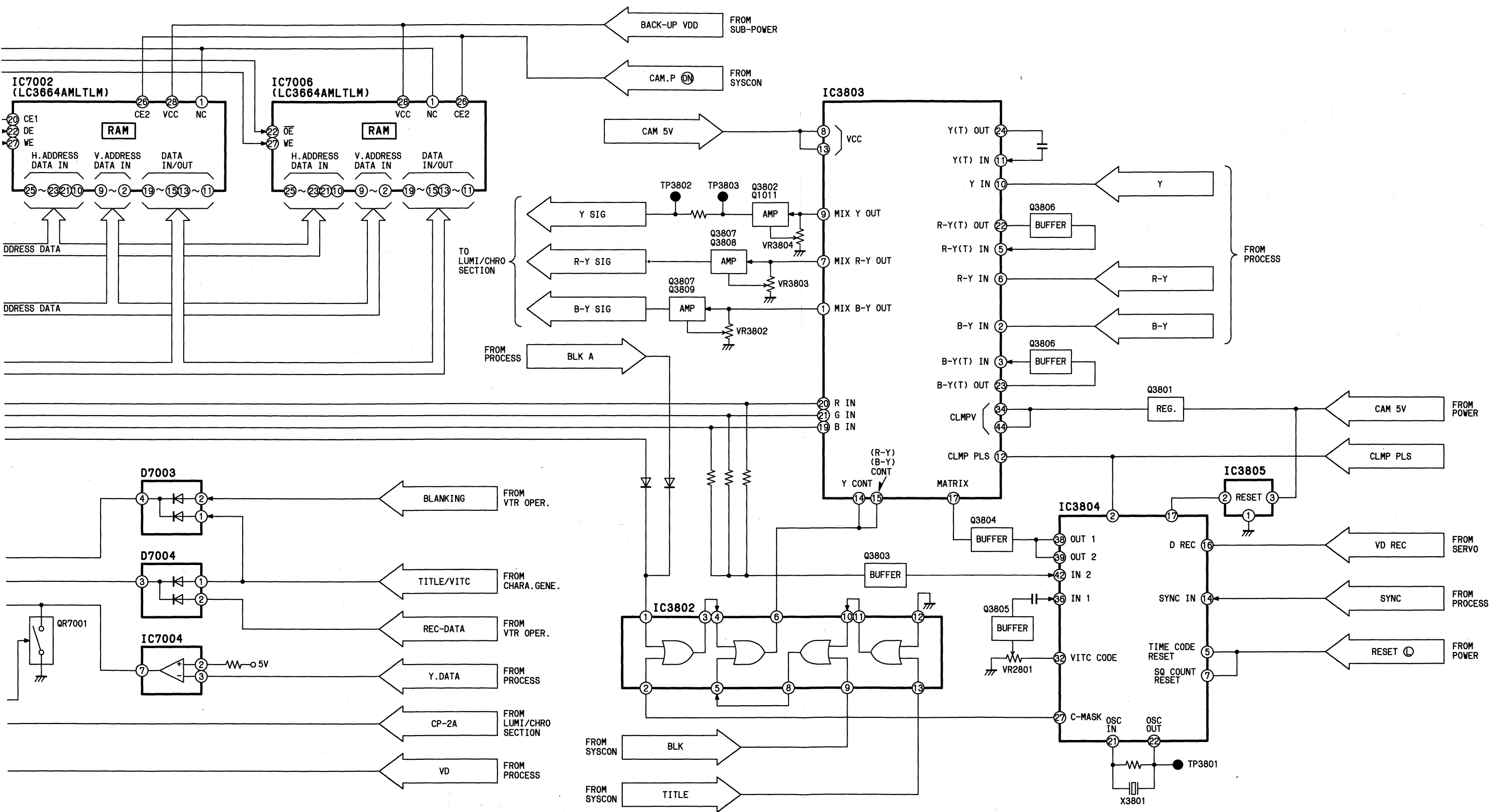
PATH IN REC MODE

← MAIN SIGNAL PATH IN PLAYBACK MODE



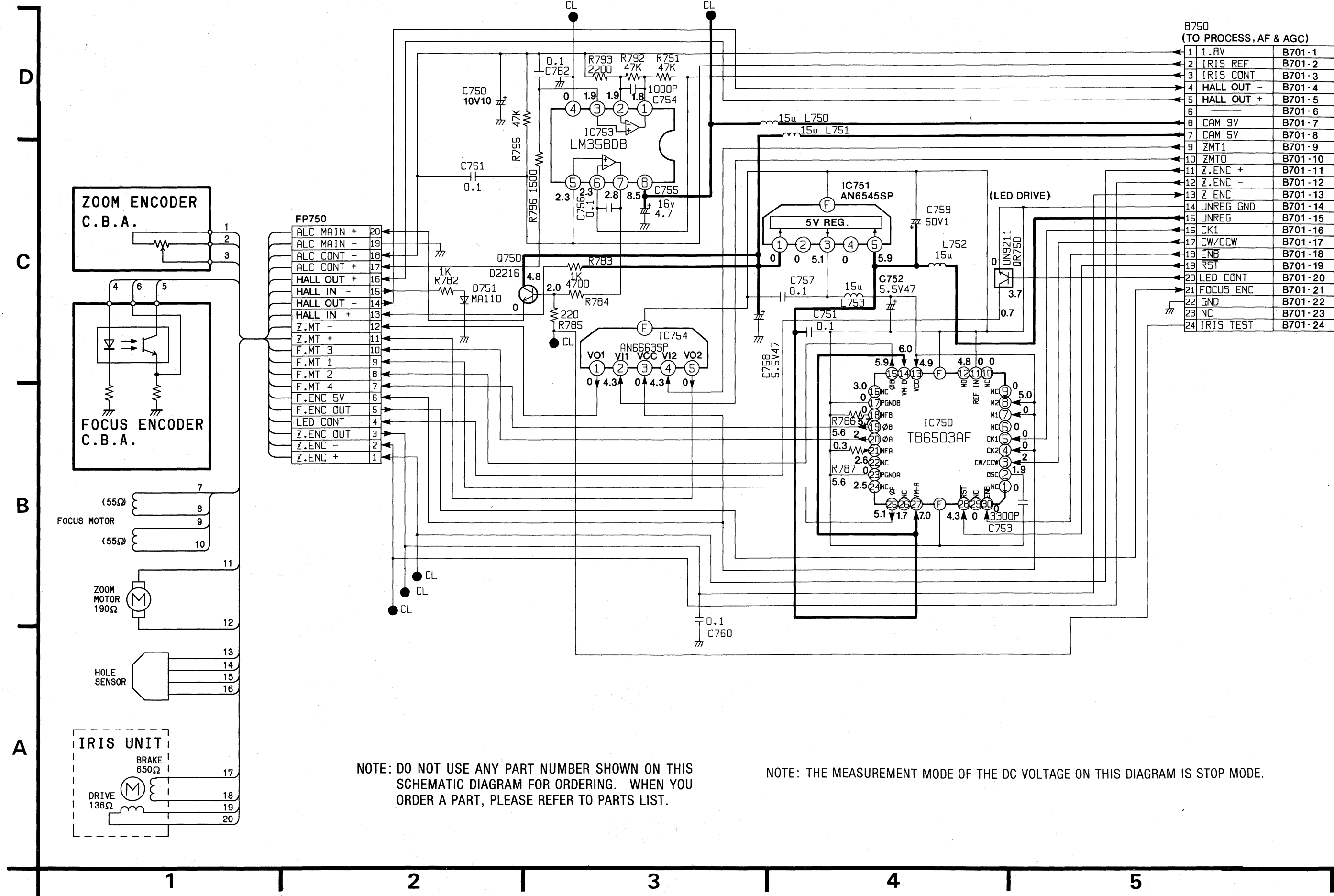
3-9. DIGITAL MEMORY BLOCK DIAGRAM





3-10. LENS DRIVE SCHEMATIC DIAGRAM

3-11. LENS



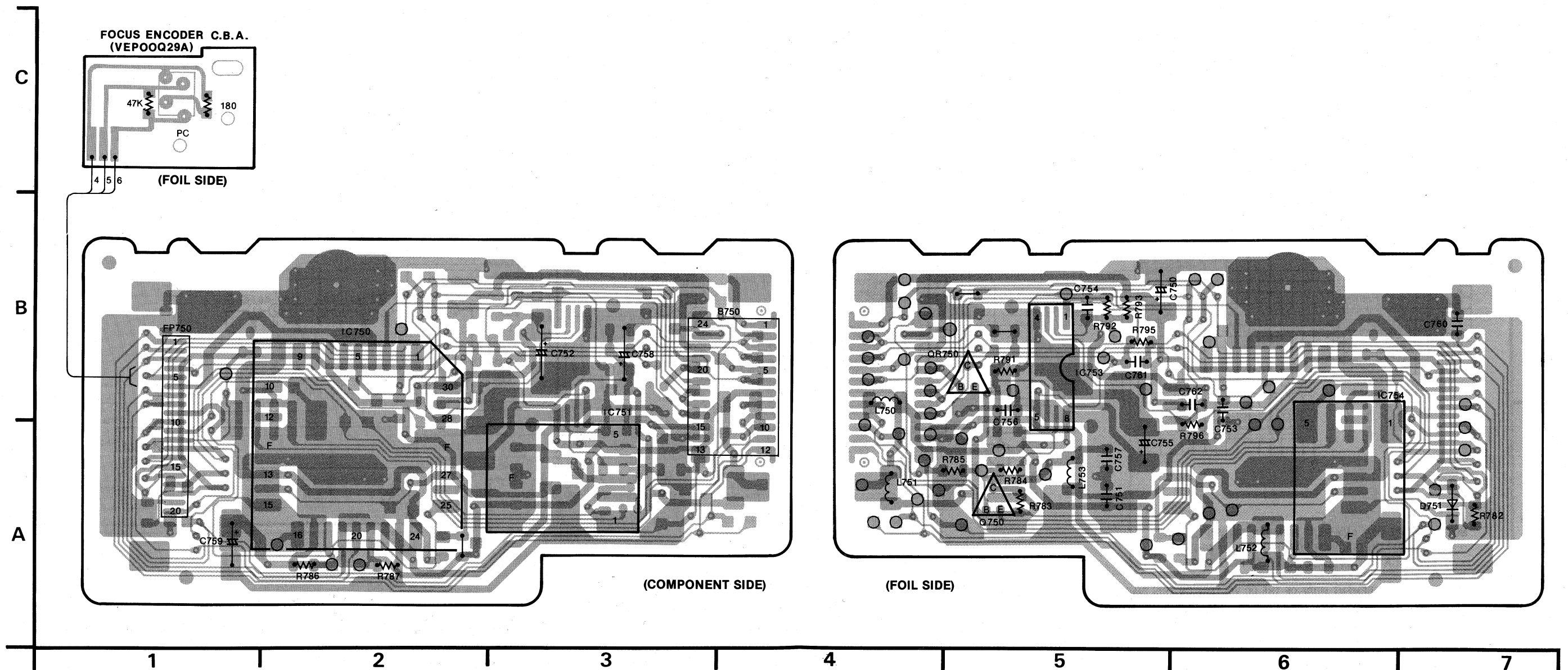
3-11. LENS DRIVE C.B.A. (VEP27056A)

ESS, AF & AGC)

	B701-1
REF	B701-2
CONT	B701-3
OUT -	B701-4
OUT +	B701-5
—	B701-6
V	B701-7
V	B701-8
	B701-9
	B701-10
+	B701-11
-	B701-12
	B701-13
GND	B701-14
	B701-15
	B701-16
W	B701-17
	B701-18
	B701-19
ONT	B701-20
ENC	B701-21
	B701-22
	B701-23
TEST	B701-24

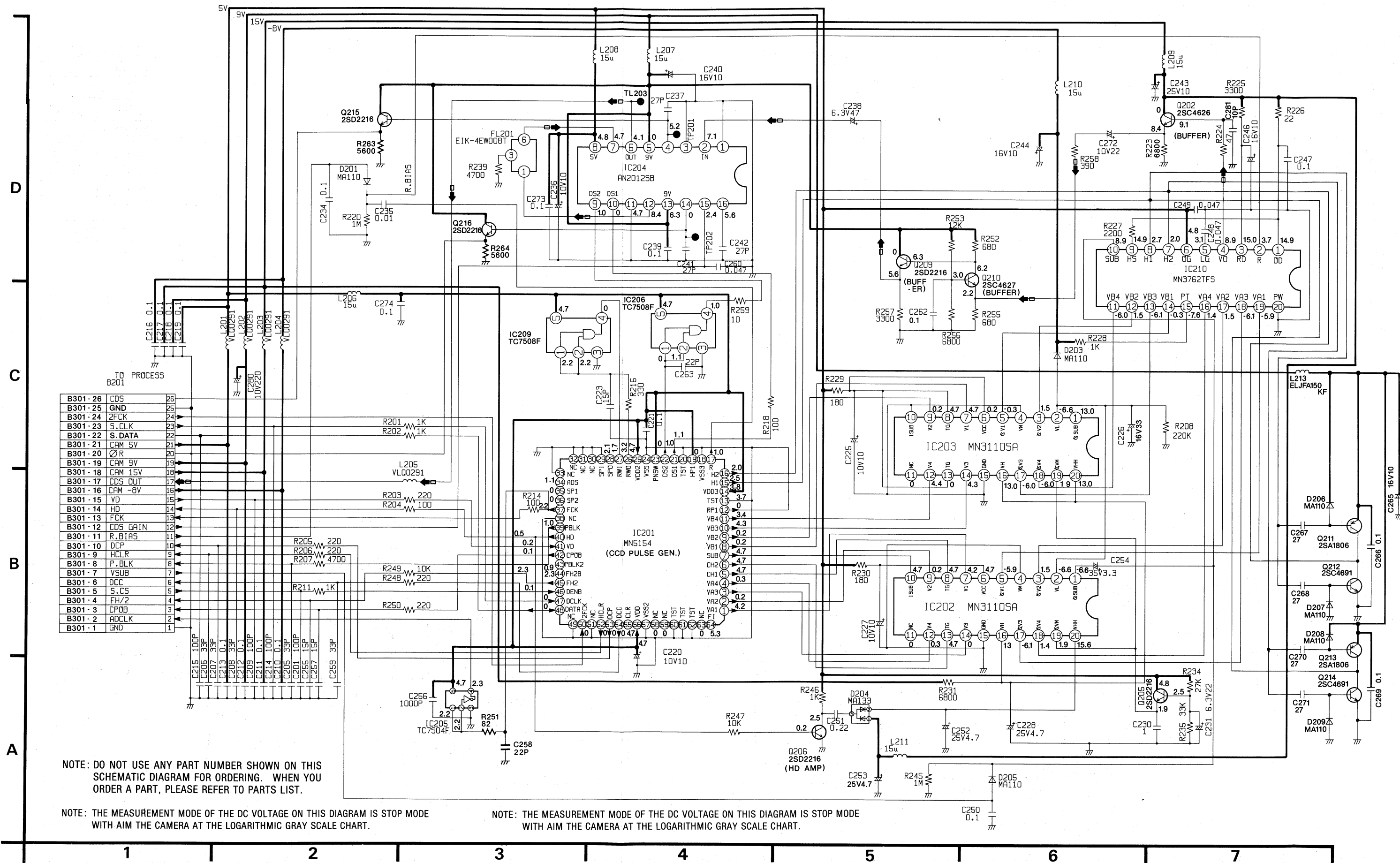
LENS DRIVE C.B.A.		
Transistor		
Q750	A-5	Ⓟ
Transistor & Resistor		
QR750	B-5	Ⓟ
Integrated Circuit		
IC750	B-2	Ⓢ
IC751	B-3	Ⓢ
IC753	B-5	Ⓟ
IC754	B-6	Ⓟ
Connector		
B750	B-4	Ⓢ
FP750	B-1	Ⓢ

ADDRESS INFORMATION
 ©...COMPONENT SIDE
 ⑥...FOIL SIDE

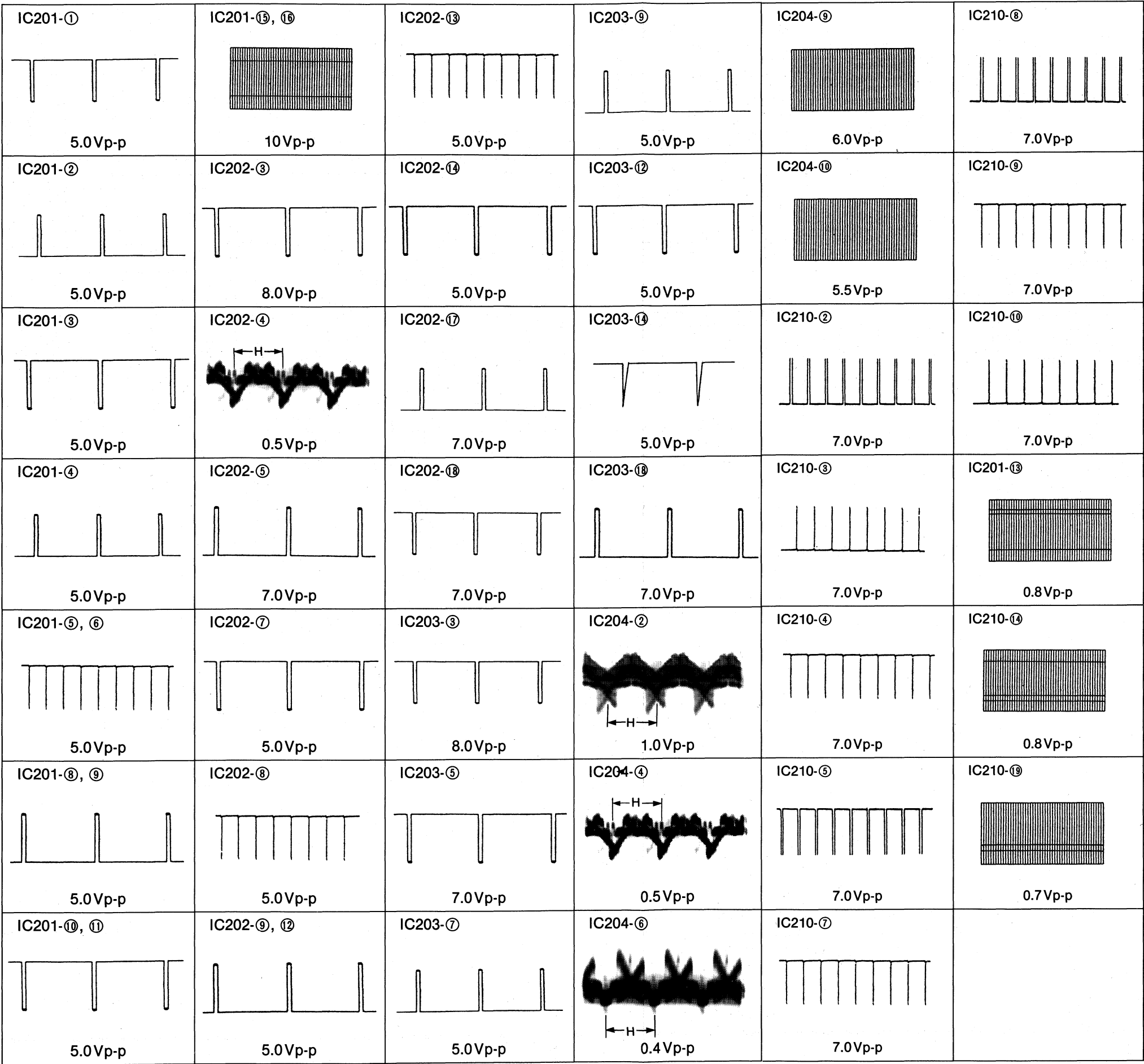
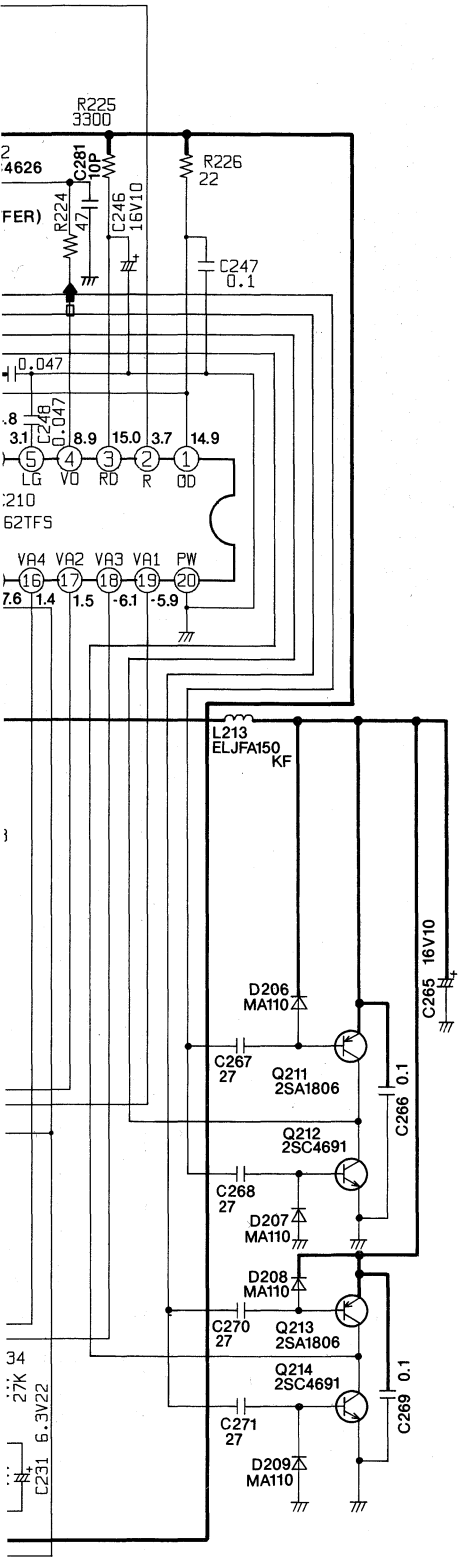


3-12. SENSOR SCHEMATIC DIAGRAM

← PRE VIDEO SIGNAL



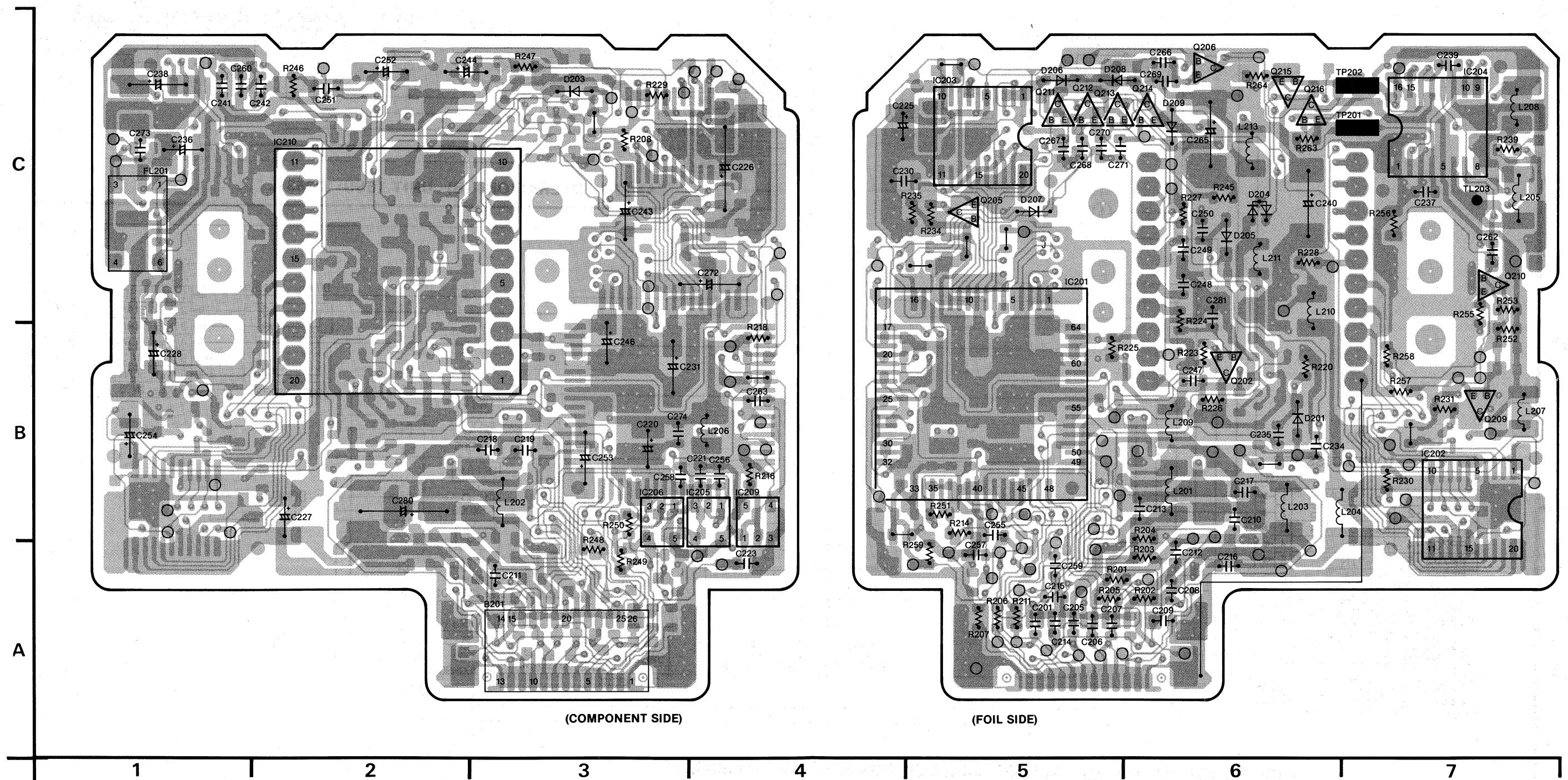
SENSOR CIRCUIT WAVEFORM (STOP MODE)



SENSOR C.B.A.		
Transistor		
Q202	B-6	Ⓢ
Q205	C-5	Ⓢ
Q206	C-6	Ⓢ
Q209	B-7	Ⓢ
Q210	C-7	Ⓢ
Q215	C-6	Ⓢ
Q216	C-6	Ⓢ
Integrated Circuit		
IC201	C-5	Ⓢ
IC202	B-7	Ⓢ
IC203	C-5	Ⓢ
IC204	C-7	Ⓢ
IC205	B-4	Ⓢ
IC206	B-3	Ⓢ
IC209	B-4	Ⓢ
Test Point		
TP201	C-7	Ⓢ
TP202	C-7	Ⓢ
Test Land		
TL203	C-7	Ⓢ
Connector		
B201	A-3	Ⓢ

ADDRESS INFORMATION
Ⓢ... COMPONENT SIDE
Ⓢ... FOIL SIDE

3-13. SENSOR C.B.A. (VEP22102A)

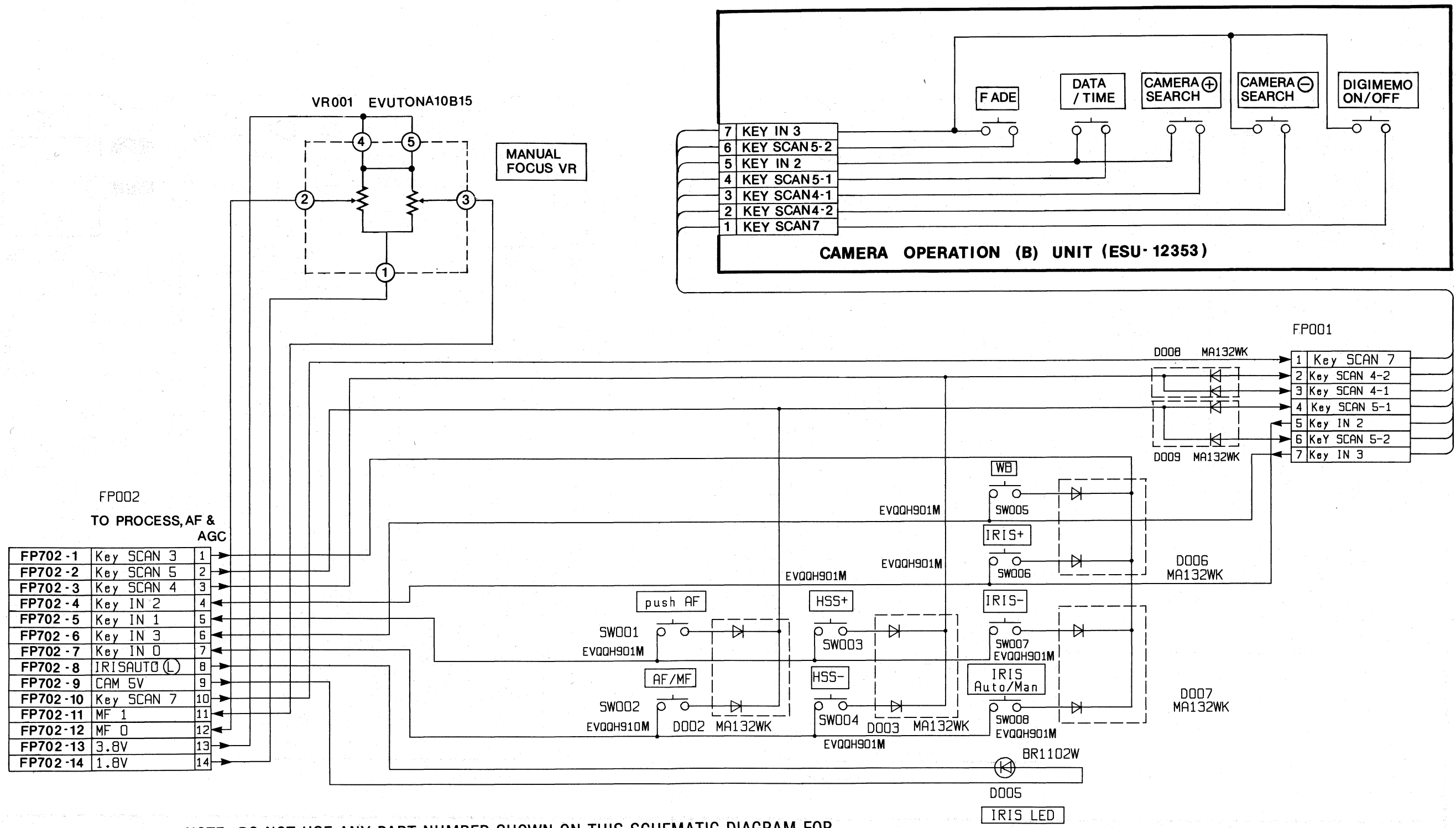


3-14. CAMERA OPERATION (A) SCHEMATIC DIAGRAM

C

B

A



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

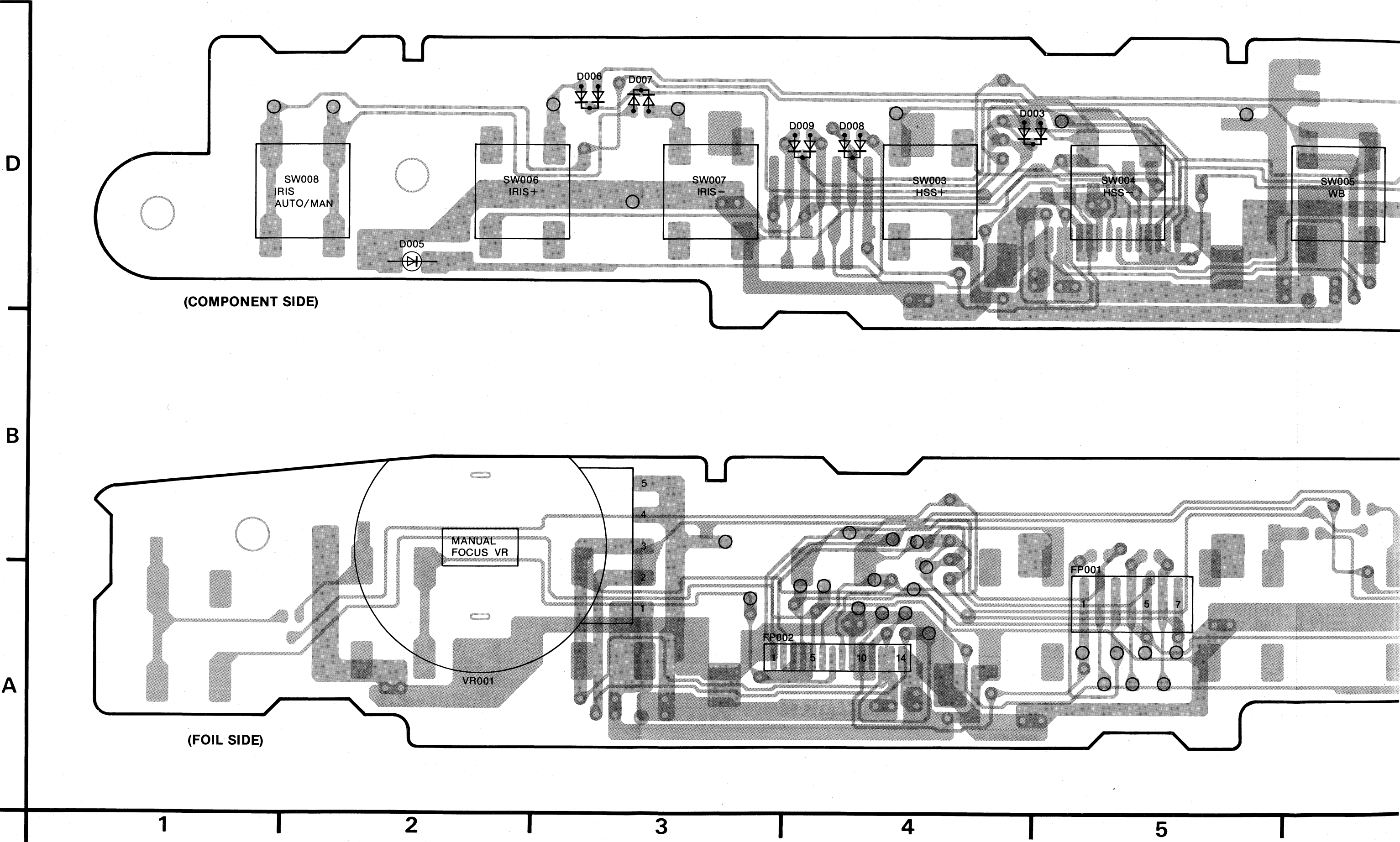
1

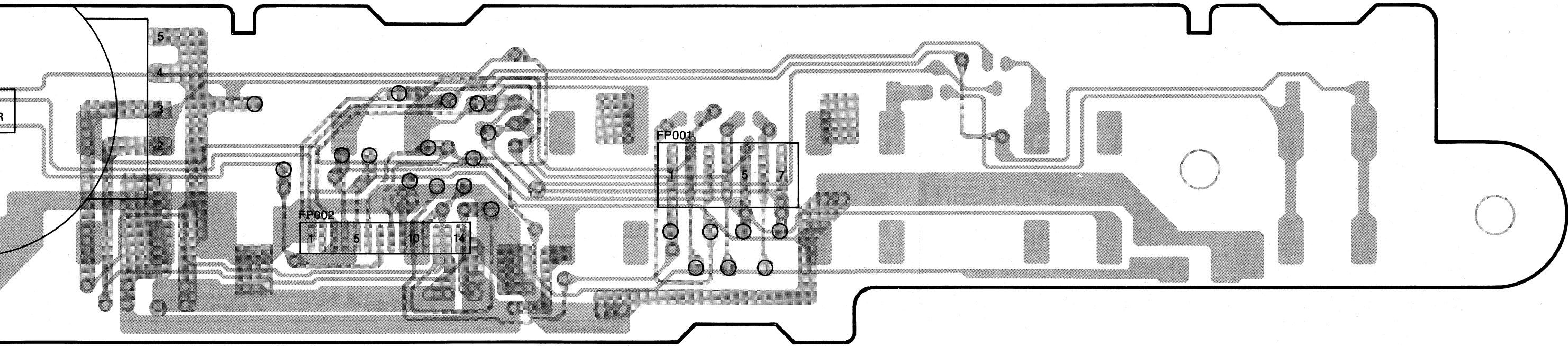
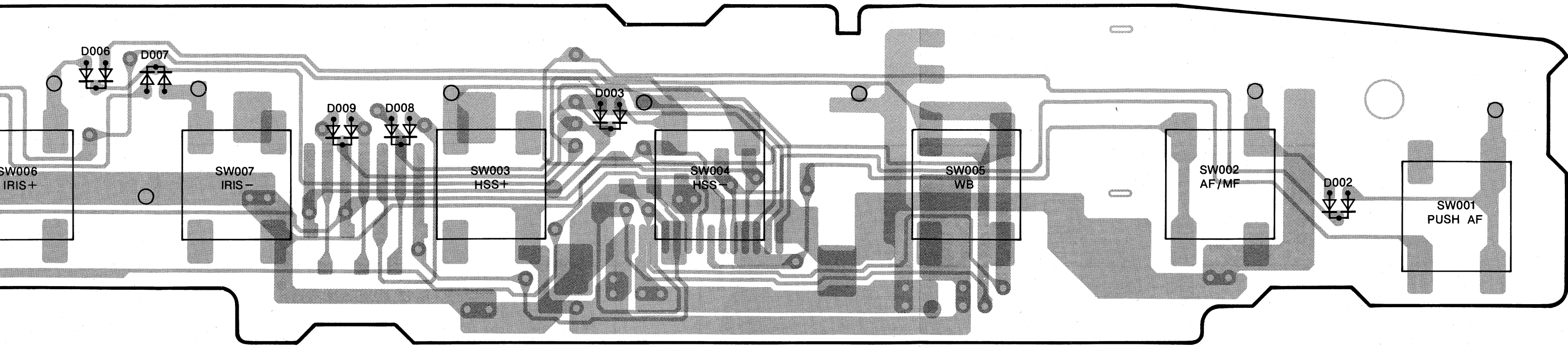
2

3

4

5





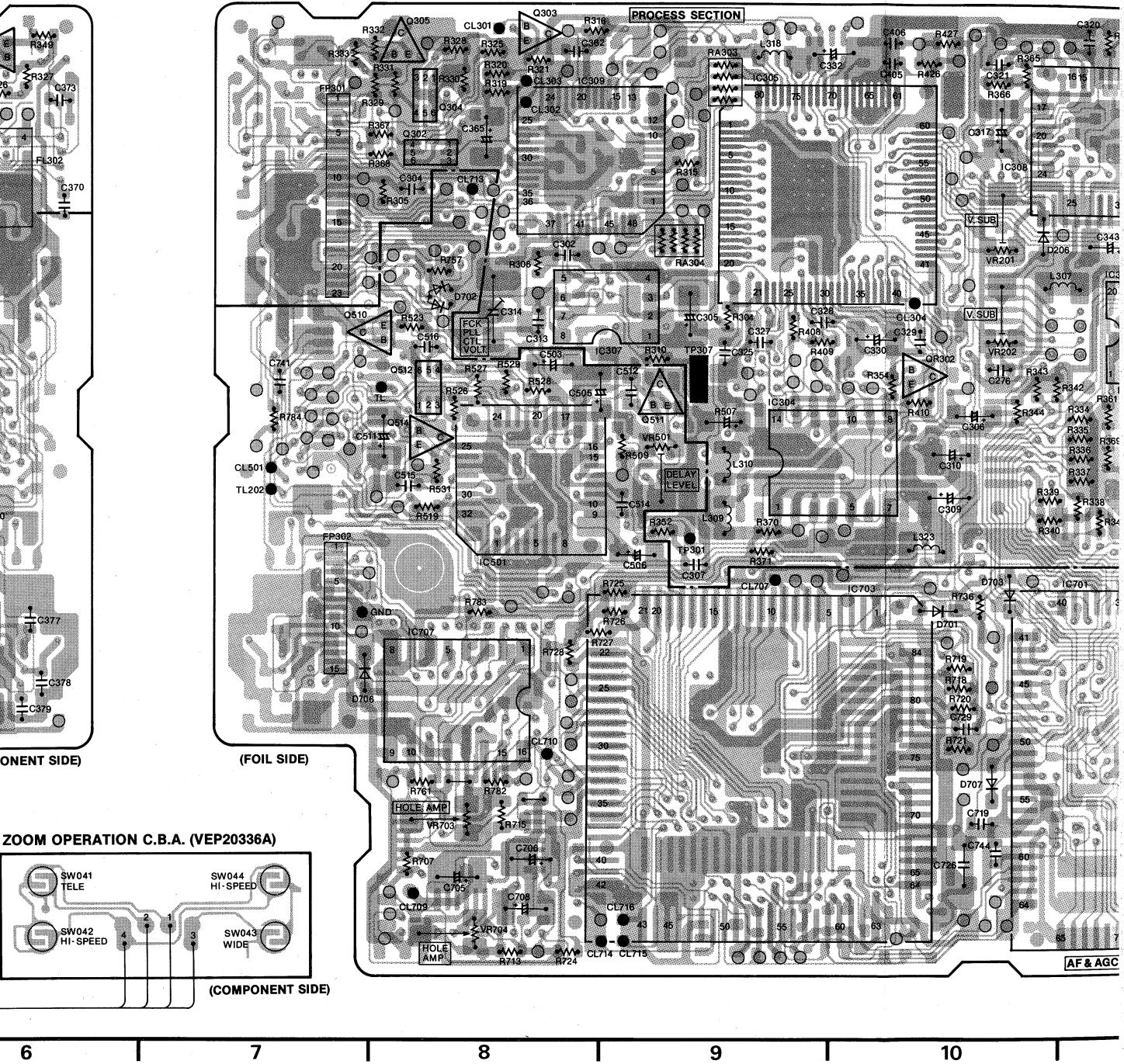
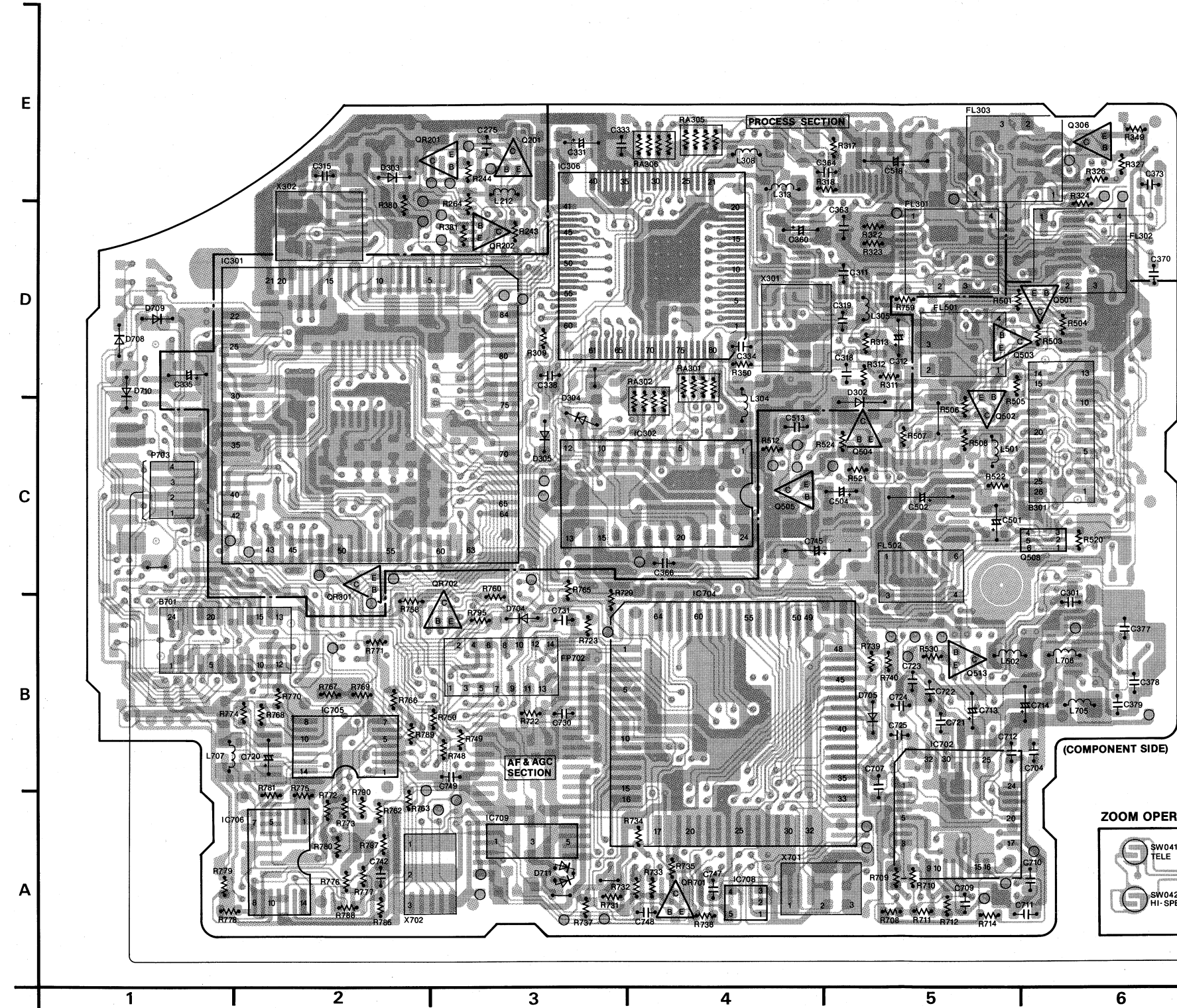
3

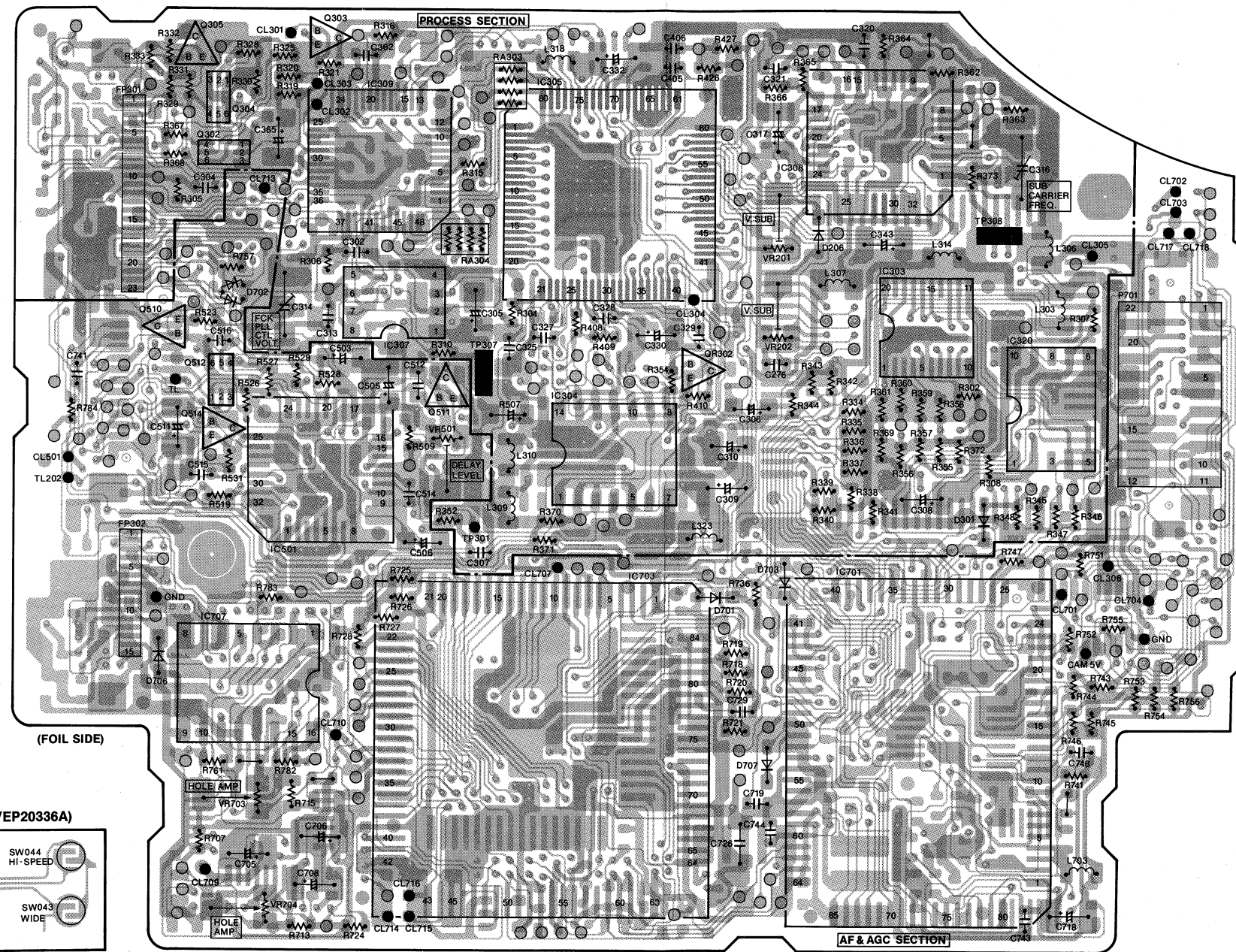
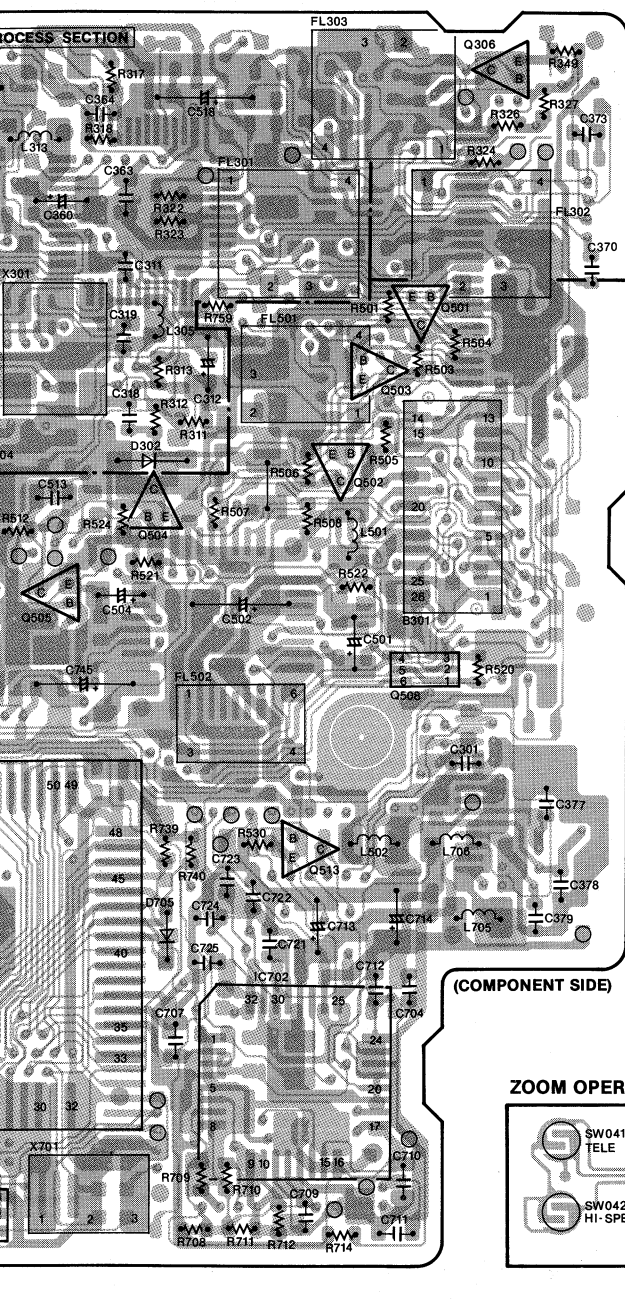
4

5

6

7





PROCESS Section		
Transistor		
Q302	D-8	Ⓢ
Q303	E-8	Ⓢ
Q304	E-8	Ⓢ
Q305	E-8	Ⓢ
Q306	E-6	Ⓢ
Transistor & Resistor		
QR301	C-2	Ⓢ
QR302	C-10	Ⓢ
Integrated Circuit		
IC301	D-2	Ⓢ
IC302	C-3	Ⓢ
IC303	D-11	Ⓢ
IC304	C-9	Ⓢ
IC305	E-9	Ⓢ
IC306	E-3	Ⓢ
IC307	D-9	Ⓢ
IC308	D-10	Ⓢ
IC309	E-8	Ⓢ
IC320	D-11	Ⓢ
Check Land		
CL301	C-9	Ⓢ
CL302	E-8	Ⓢ
CL303	E-8	Ⓢ
CL304	D-10	Ⓢ
CL305	D-12	Ⓢ
CL306	B-12	Ⓢ
Test Point		
TP307	C-9	Ⓢ
TP308	D-11	Ⓢ
Adjustment		
C314	D-8	Ⓢ
C316	D-11	Ⓢ
Connector		
FP301	E-7	Ⓢ
FP302	C-7	Ⓢ

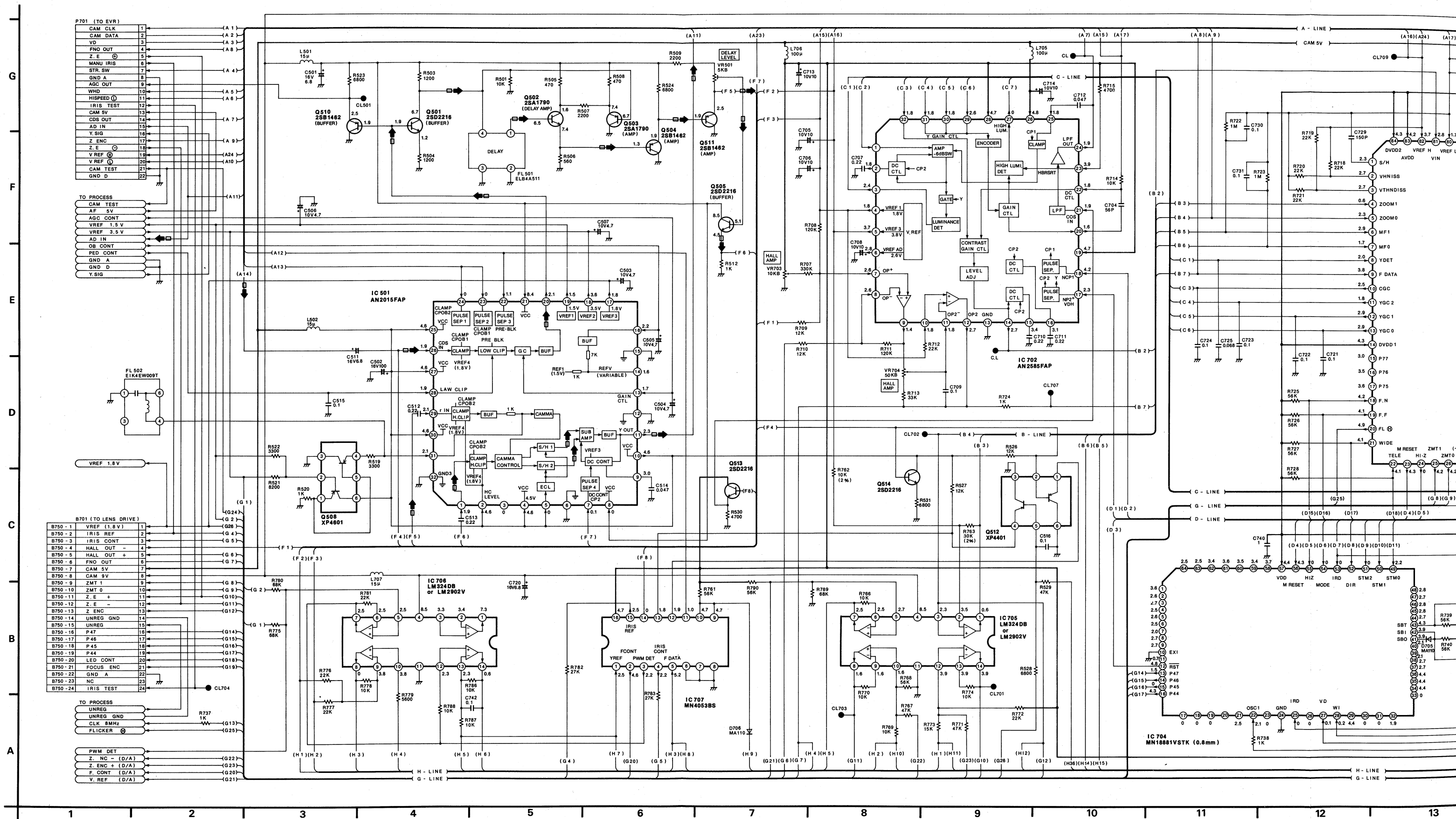
ADDRESS INFORMATION
 Ⓢ... COMPONENT SIDE
 Ⓢ... FOIL SIDE

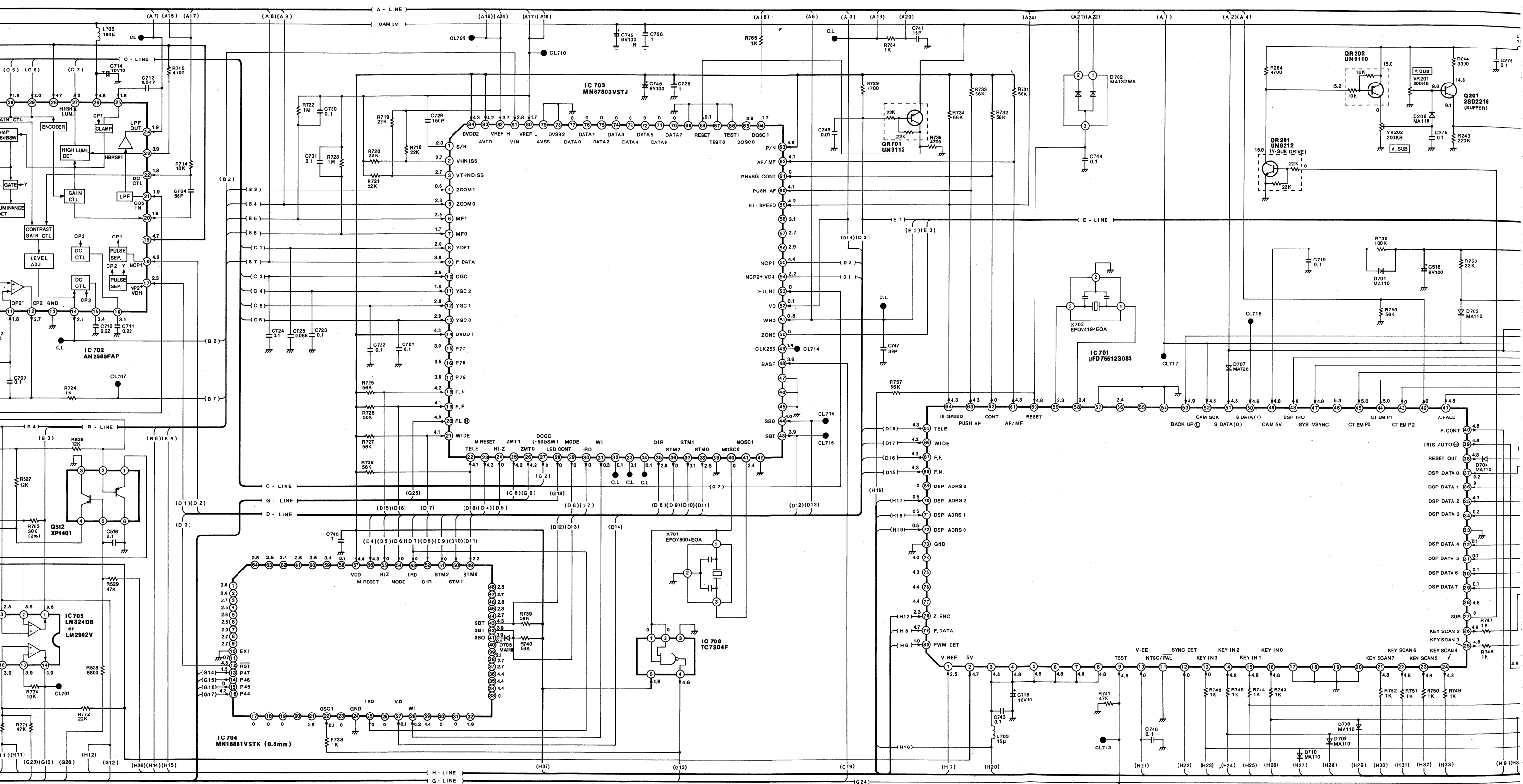
AF & AGC Section		
Transistor		
Q201	E-3	Ⓢ
Q501	D-6	Ⓢ
Q502	C-5	Ⓢ
Q503	D-5	Ⓢ
Q504	C-5	Ⓢ
Q505	C-4	Ⓢ
Q508	C-6	Ⓢ
Q510	D-7	Ⓢ
Q511	C-9	Ⓢ
Q512	C-8	Ⓢ
Q513	B-5	Ⓢ
Q514	C-8	Ⓢ
Transistor & Resistor		
QR201	E-2	Ⓢ
QR202	D-3	Ⓢ
QR701	A-4	Ⓢ
QR702	C-3	Ⓢ
Integrated Circuit		
IC501	C-8	Ⓢ
IC701	B-11	Ⓢ
IC702	B-5	Ⓢ
IC703	B-10	Ⓢ
IC704	B-4	Ⓢ
IC705	B-2	Ⓢ
IC706	A-2	Ⓢ
IC707	B-8	Ⓢ
IC708	A-4	Ⓢ
IC709	A-3	Ⓢ
Check Land		
CL202	C-7	Ⓢ
CL501	C-7	Ⓢ
CL701	B-12	Ⓢ
CL702	D-12	Ⓢ
CL703	D-12	Ⓢ
CL704	B-12	Ⓢ
CL707	B-9	Ⓢ
CL709	A-8	Ⓢ
CL710	B-8	Ⓢ
CL713	D-8	Ⓢ
CL714	A-9	Ⓢ
CL715	A-9	Ⓢ
CL716	A-9	Ⓢ
CL717	D-12	Ⓢ
CL718	D-12	Ⓢ
GND	B-7	Ⓢ
CAM5V	B-12	Ⓢ
GND	B-12	Ⓢ
Adjustment		
VR201	D-10	Ⓢ
VR202	D-10	Ⓢ
VR501	C-9	Ⓢ
VR703	A-8	Ⓢ
VR704	A-8	Ⓢ
Connector		
B301	C-6	Ⓢ
B701	B-1	Ⓢ
FP702	B-3	Ⓢ
P701	D-12	Ⓢ
P703	C-1	Ⓢ

ADDRESS INFORMATION
 Ⓢ... COMPONENT SIDE
 Ⓢ... FOIL SIDE

3-17. AF & AGC SCHEMATIC DIAGRAM

← PRE VIDEO SIGNAL

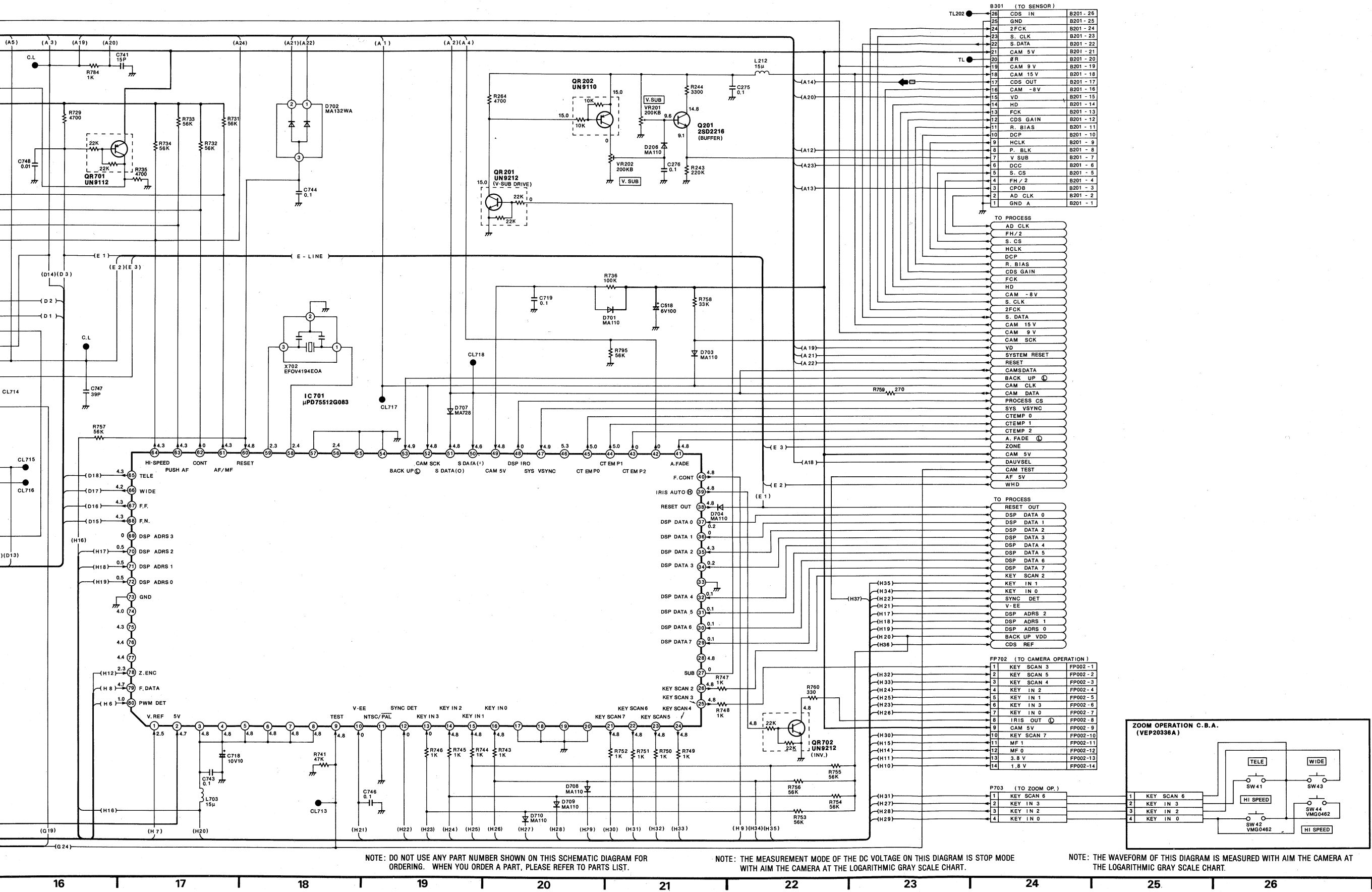




NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE M WITH

AF & AGC CIRCUIT
WAVEFORM (STOP MODE)



3-18. PROCESS SCHEMATIC DIAGRAM

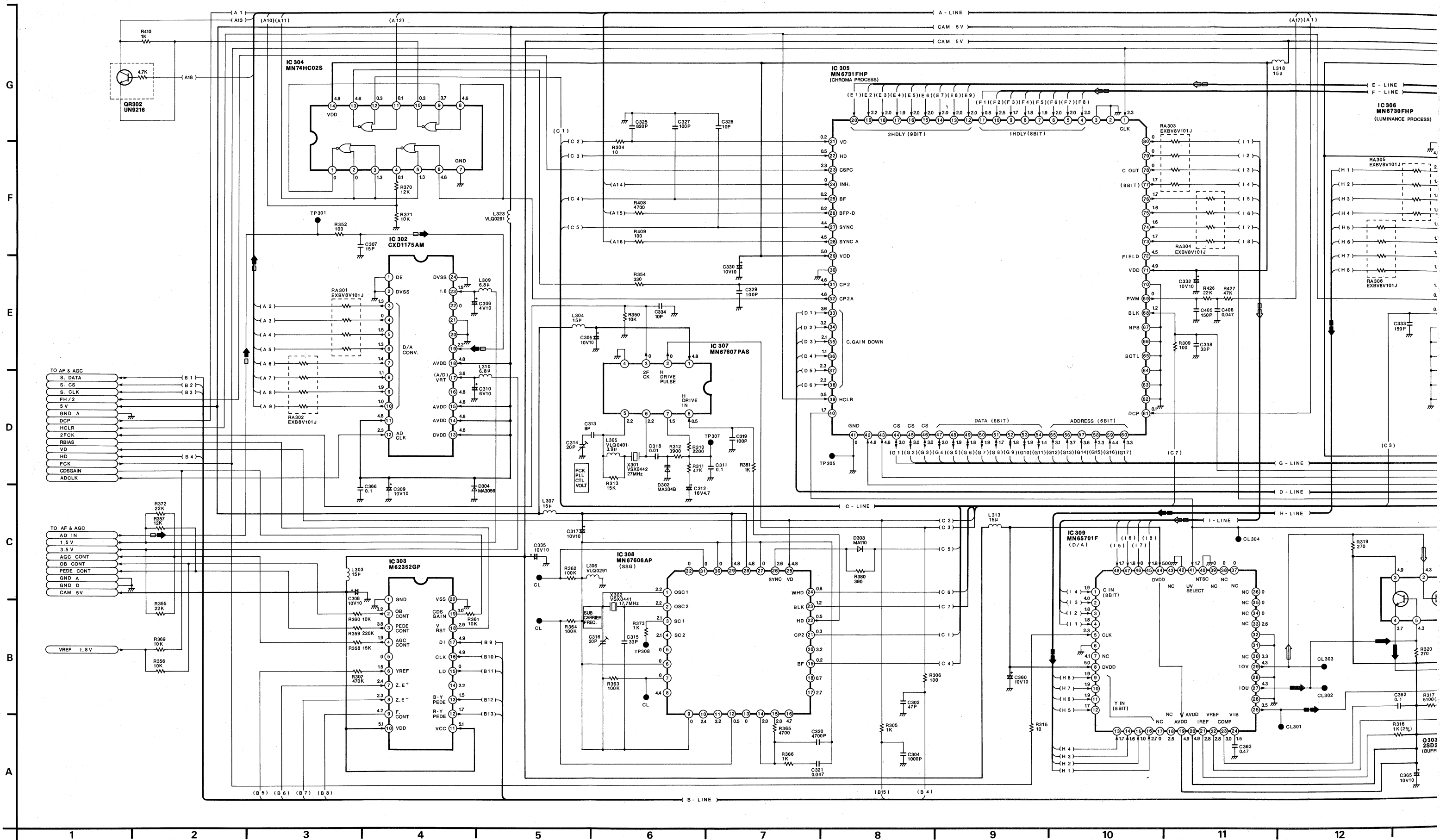
← R-Y SIGNAL

← B-Y SIGNAL

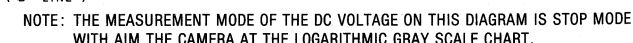
← LUMINANCE SIGNAL

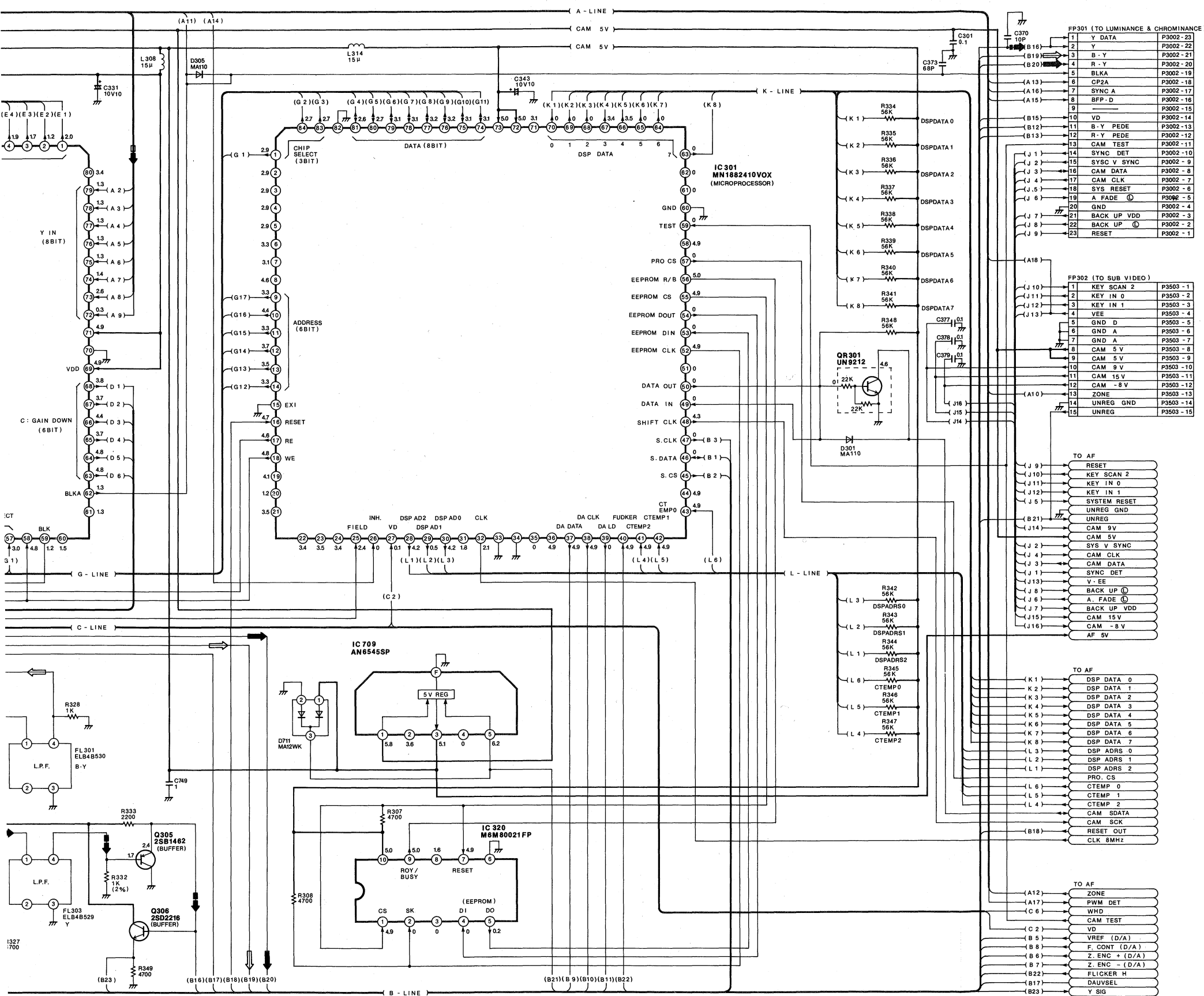
← R-Y/B-Y COMPOSITE SIGNAL

← PRE VIDEO SIGNAL



◀ PRE VIDEO SIGNAL



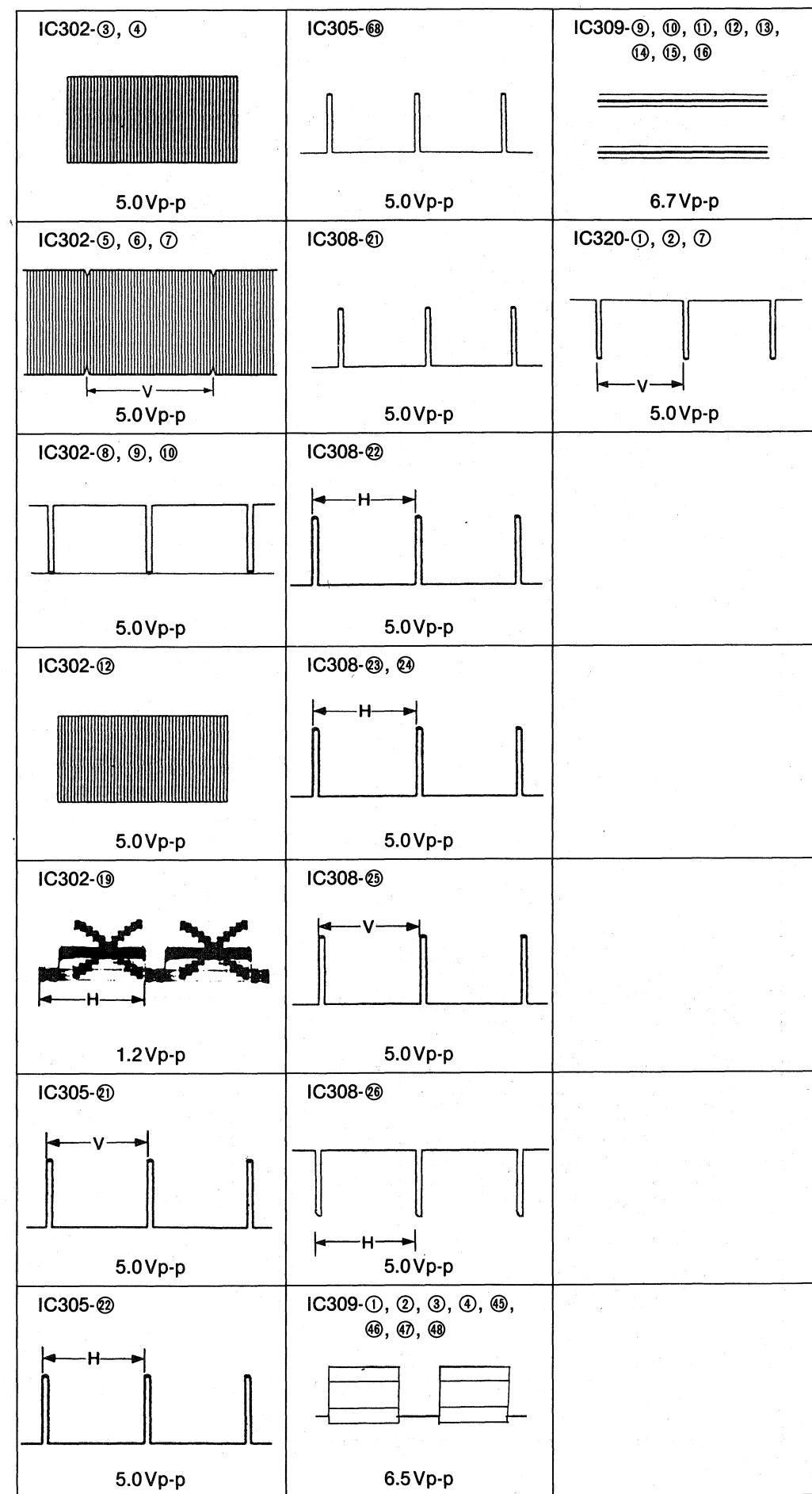


IT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR
ING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT
THE LOGARITHMIC GRAY SCALE CHART.

PROCESS CIRCUIT WAVEFORM (STOP MODE)



F

D

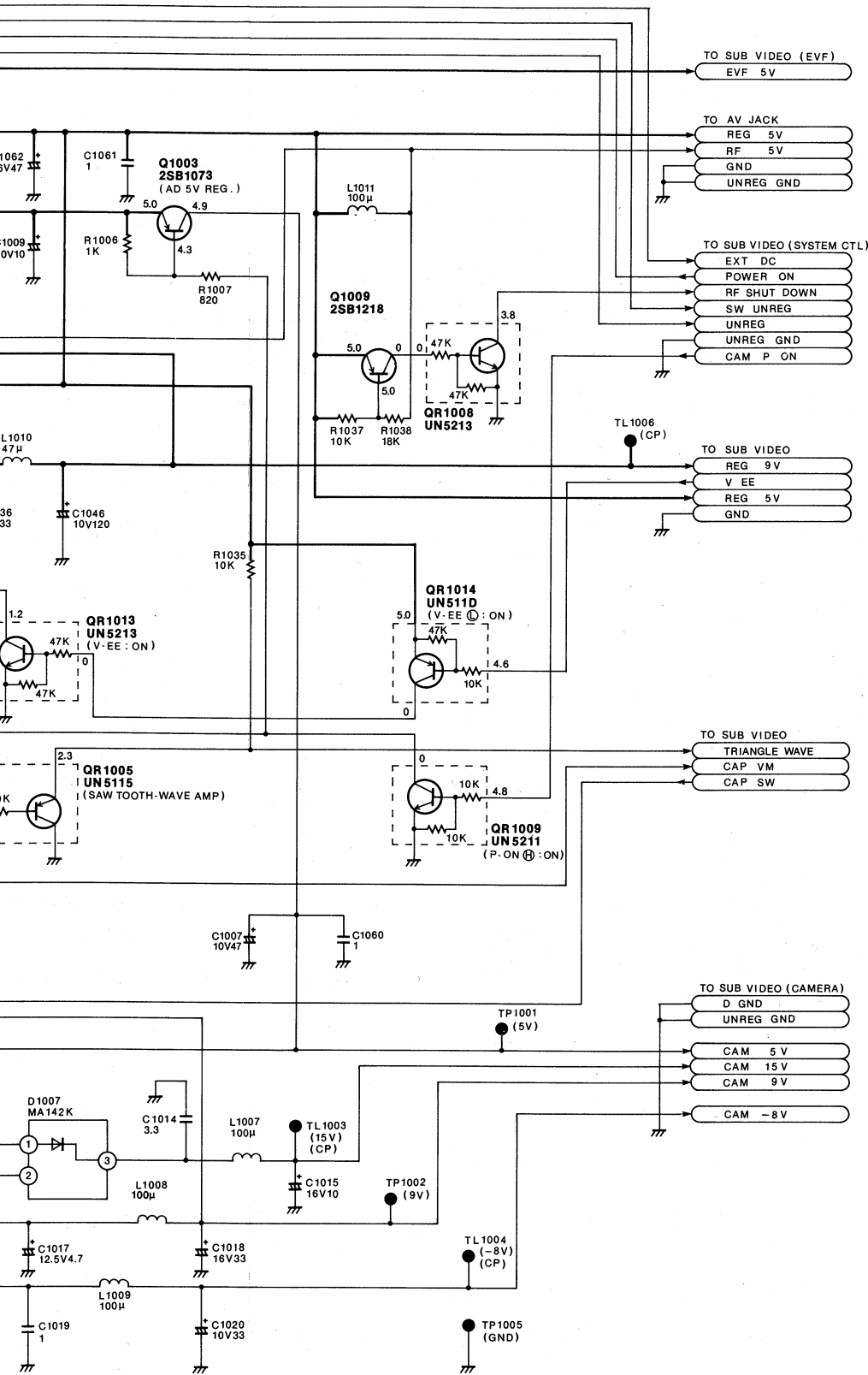
C

B

A

1

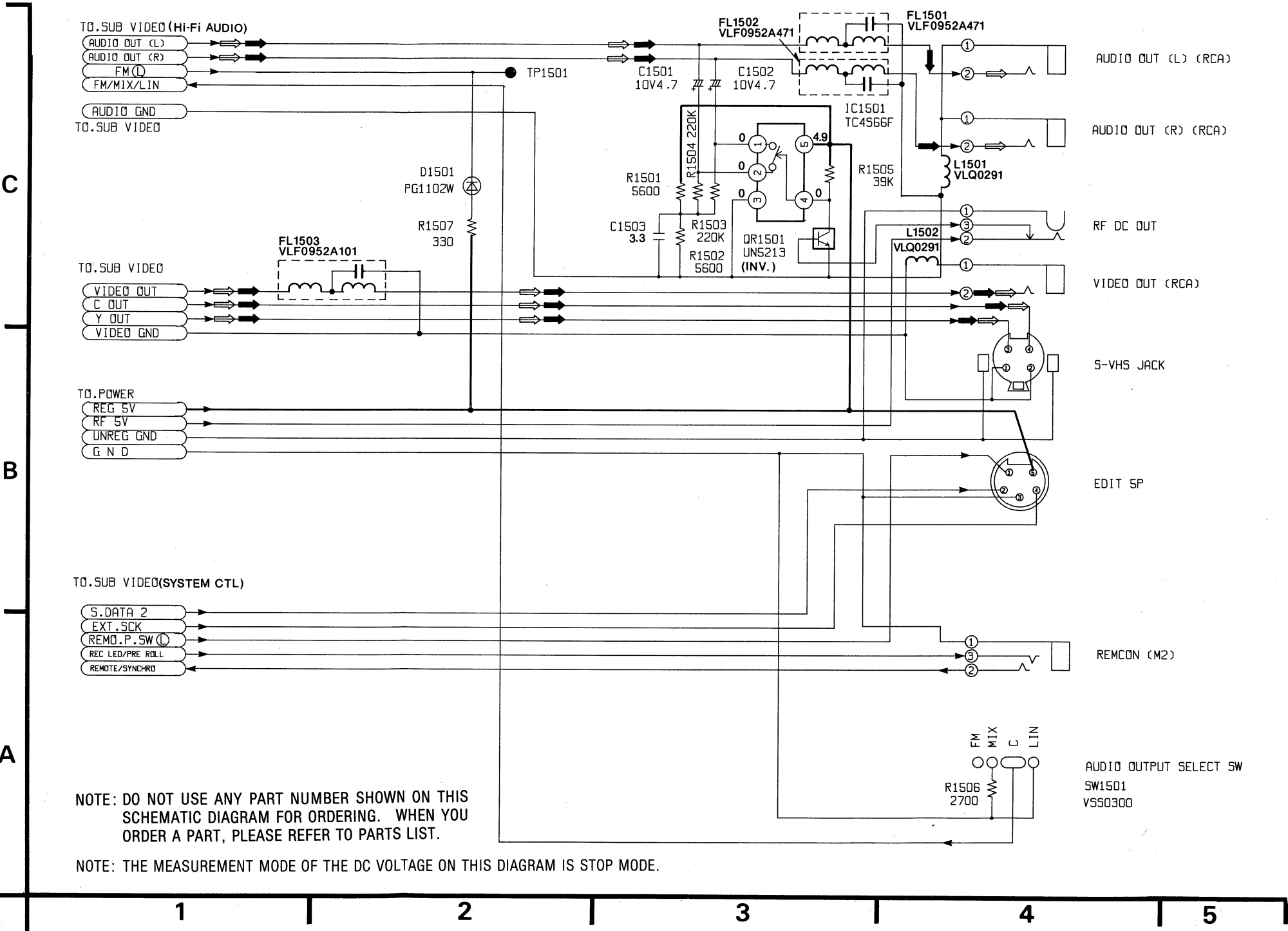
3-20. AV JACK SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

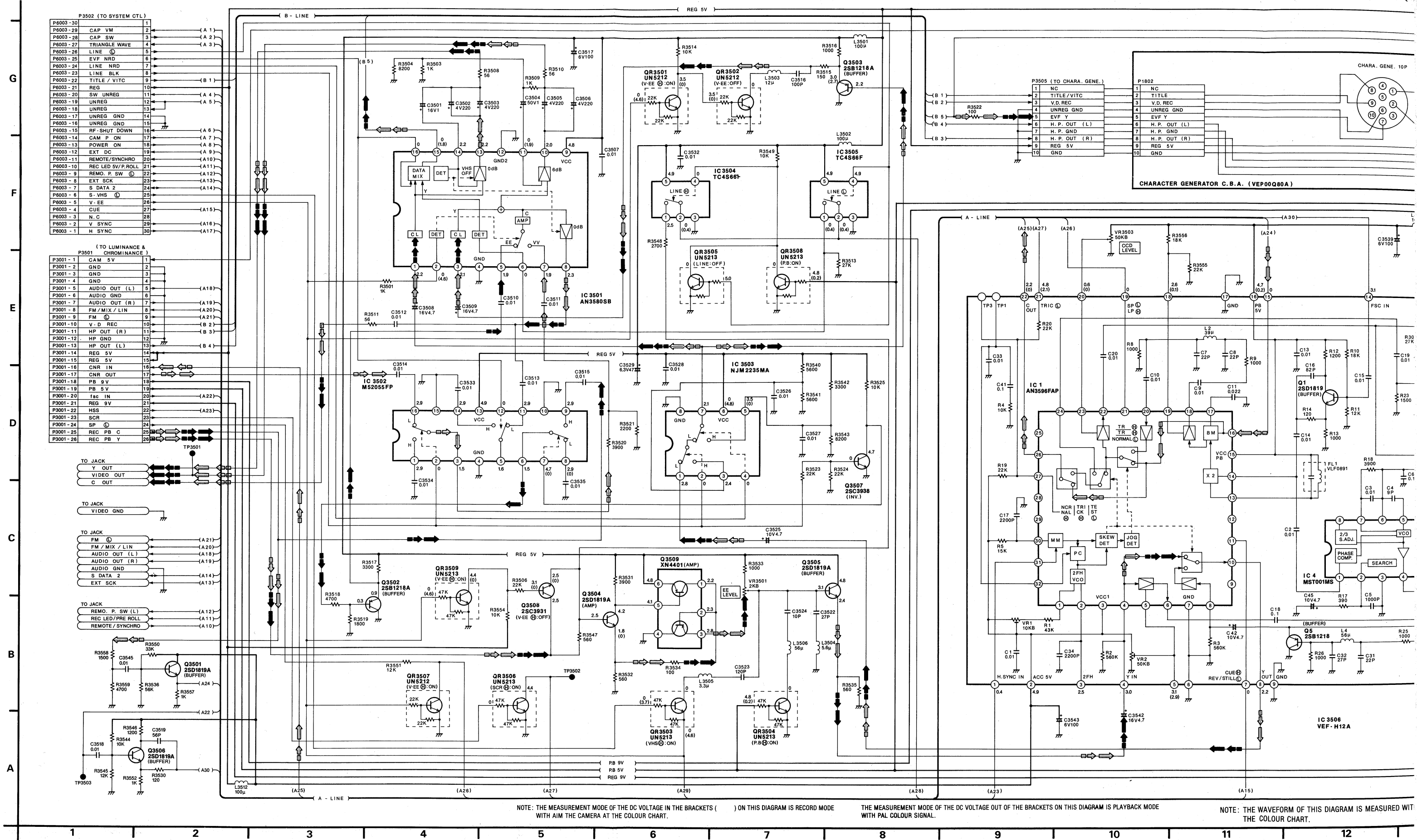
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE



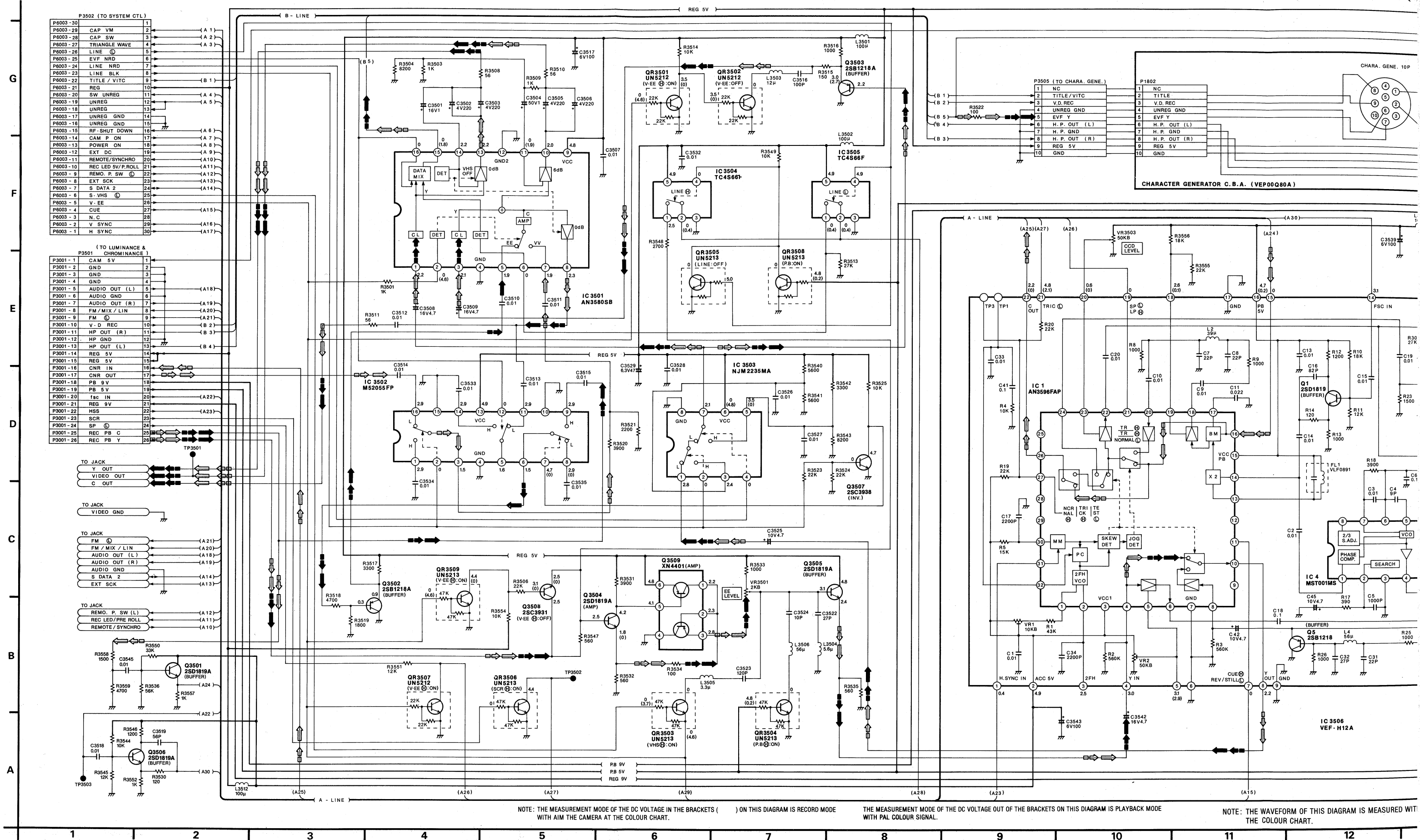
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

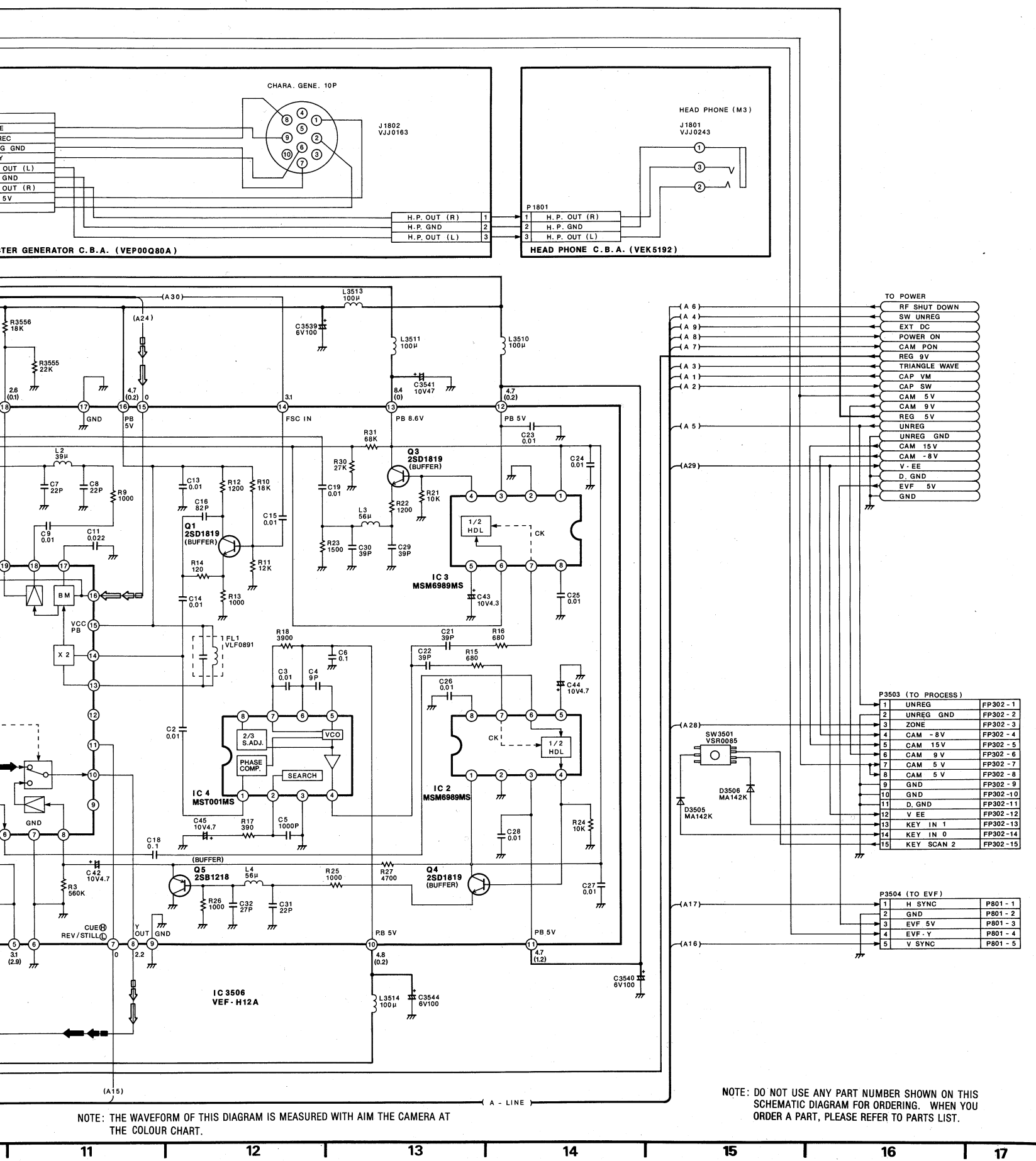
3-21. SUB VIDEO SCHEMATIC DIAGRAM



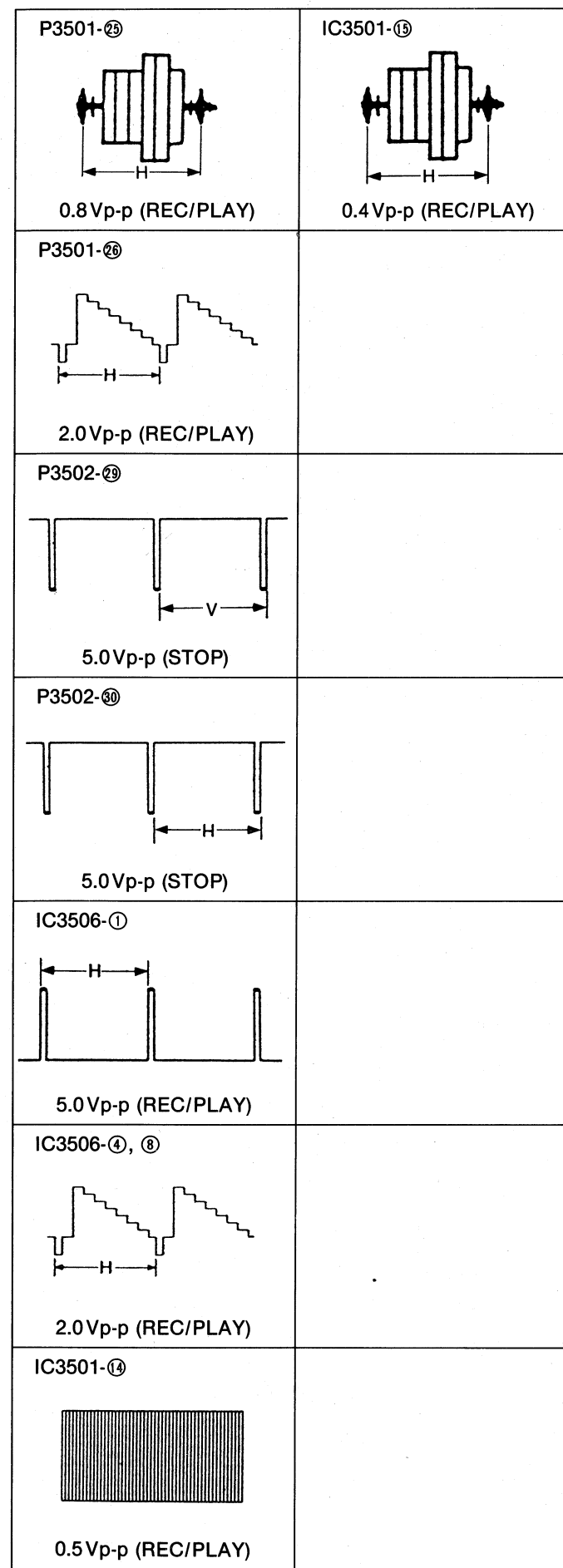
3-21. SUB VIDEO SCHEMATIC DIAGRAM



IGNAL PATH IN PLAYBACK MODE(VHS) ← MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)



SUB VIDEO CIRCUIT WAVEFORM



JACK Section	
Transistor & Resistor	
QR1501	B-12 ⑤
Integrated Circuit	
IC1501	B-12 ⑤
Test Point	
TP1501	F-5 ⑤

ADDRESS INFORMATION
 ⑤...COMPONENT SIDE
 ⑤...FOIL SIDE

POWER Section	
Transistor	
Q1001	E-10 ⑤
Q1002	E-10 ⑤
Q1003	D-11 ⑤
Q1004	F-10 ⑤
Q1005	C-11 ⑤
Q1006	C-10 ⑤
Q1009	E-12 ⑤
Q1010	C-10 ⑤
Q1011	D-11 ⑤
Q1016	F-12 ⑤

Transistor & Resistor	
QR1002	D-7 ⑤
QR1003	D-7 ⑤
QR1005	D-12 ⑤
QR1008	E-12 ⑤
QR1009	D-7 ⑤
QR1010	D-12 ⑤
QR1011	F-12 ⑤
QR1012	E-11 ⑤
QR1013	E-7 ⑤
QR1014	E-7 ⑤

Integrated Circuit	
IC1001	D-12 ⑤
Test Point	
TP1001	D-6 ⑤
TP1002	C-6 ⑤
TP1005	C-6 ⑤

Check Land	
CP1002	F-8 ⑤

Test Land	
TL1003	C-6 ⑤
TL1004	C-6 ⑤
TL1006	D-6 ⑤

Adjustment	
VR1001	F-8 ⑤
VR1002	F-7 ⑤

Connector	
P1001	A-16 ⑤

ADDRESS INFORMATION
 ⑤...COMPONENT SIDE
 ⑤...FOIL SIDE

SUB VIDEO Section	
Transistor	
Q3501	E-4 ⑤
Q3502	D-5 ⑤
Q3503	C-4 ⑤
Q3504	D-6 ⑤
Q3505	D-5 ⑤
Q3506	D-15 ⑤
Q3507	D-14 ⑤
Q3508	D-14 ⑤
Q3509	D-5 ⑤
Transistor & Resistor	
QR3501	D-5 ⑤
QR3502	D-5 ⑤
QR3503	E-5 ⑤
QR3504	E-5 ⑤
QR3505	E-6 ⑤
QR3506	E-4 ⑤
QR3507	E-4 ⑤
QR3508	E-6 ⑤
QR3509	D-14 ⑤

Integrated Circuit	
IC3501	C-14 ⑤
IC3502	E-5 ⑤
IC3503	D-14 ⑤
IC3504	D-6 ⑤
IC3505	D-6 ⑤
IC3506	E-3 ⑤

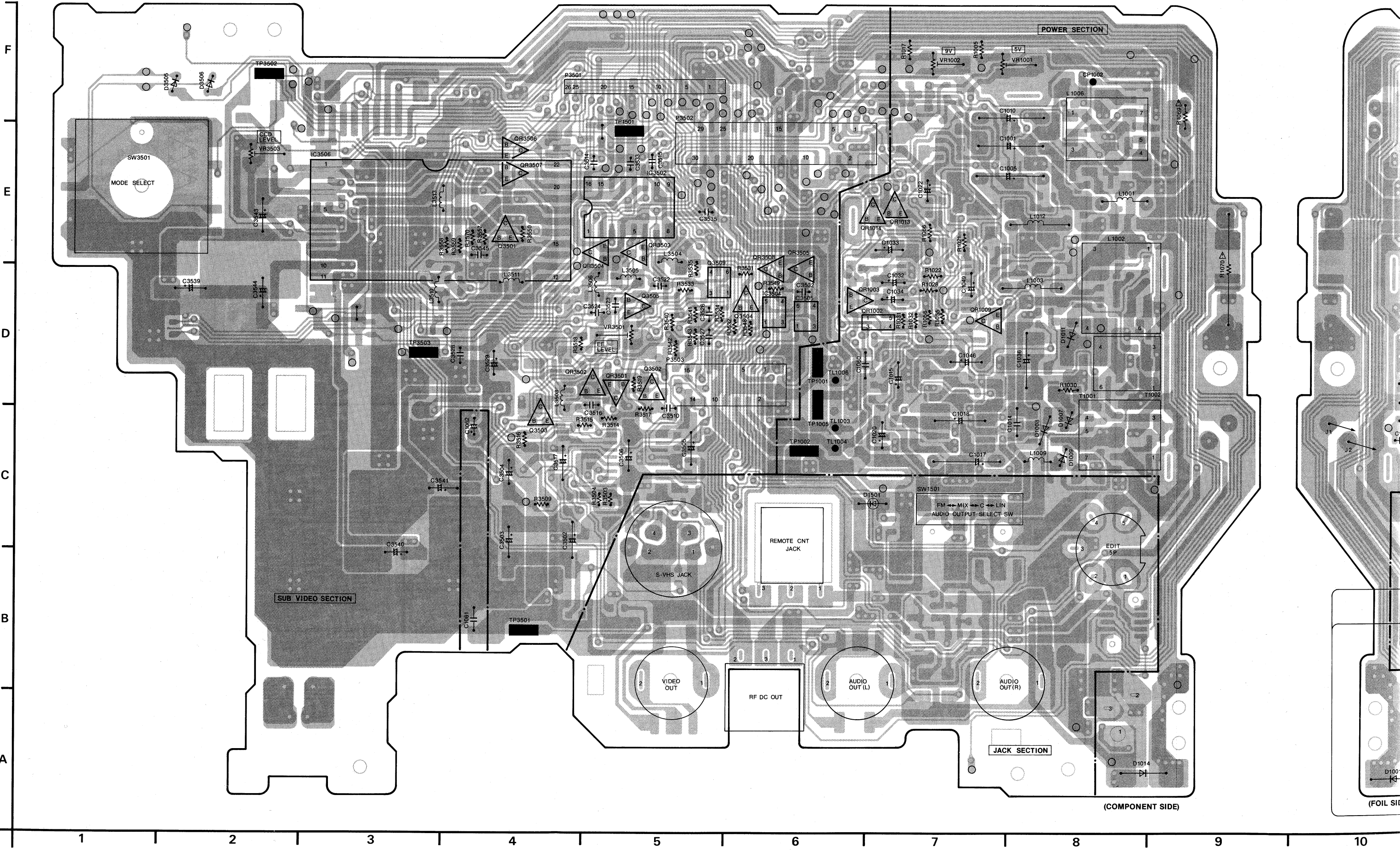
Test Point	
TP3501	B-4 ⑤
TP3502	F-2 ⑤
TP3503	D-3 ⑤

Adjustment	
VR3501	D-5 ⑤
VR3503	E-2 ⑤

Connector	
P1801	C-19 ⑤
P1802	B-20 ⑤
P3501	F-4 ⑤
P3502	F-5 ⑤
P3503	D-5 ⑤
P3504	F-16 ⑤
P3505	B-10 ⑤

ADDRESS INFORMATION
 ⑤...COMPONENT SIDE
 ⑤...FOIL SIDE

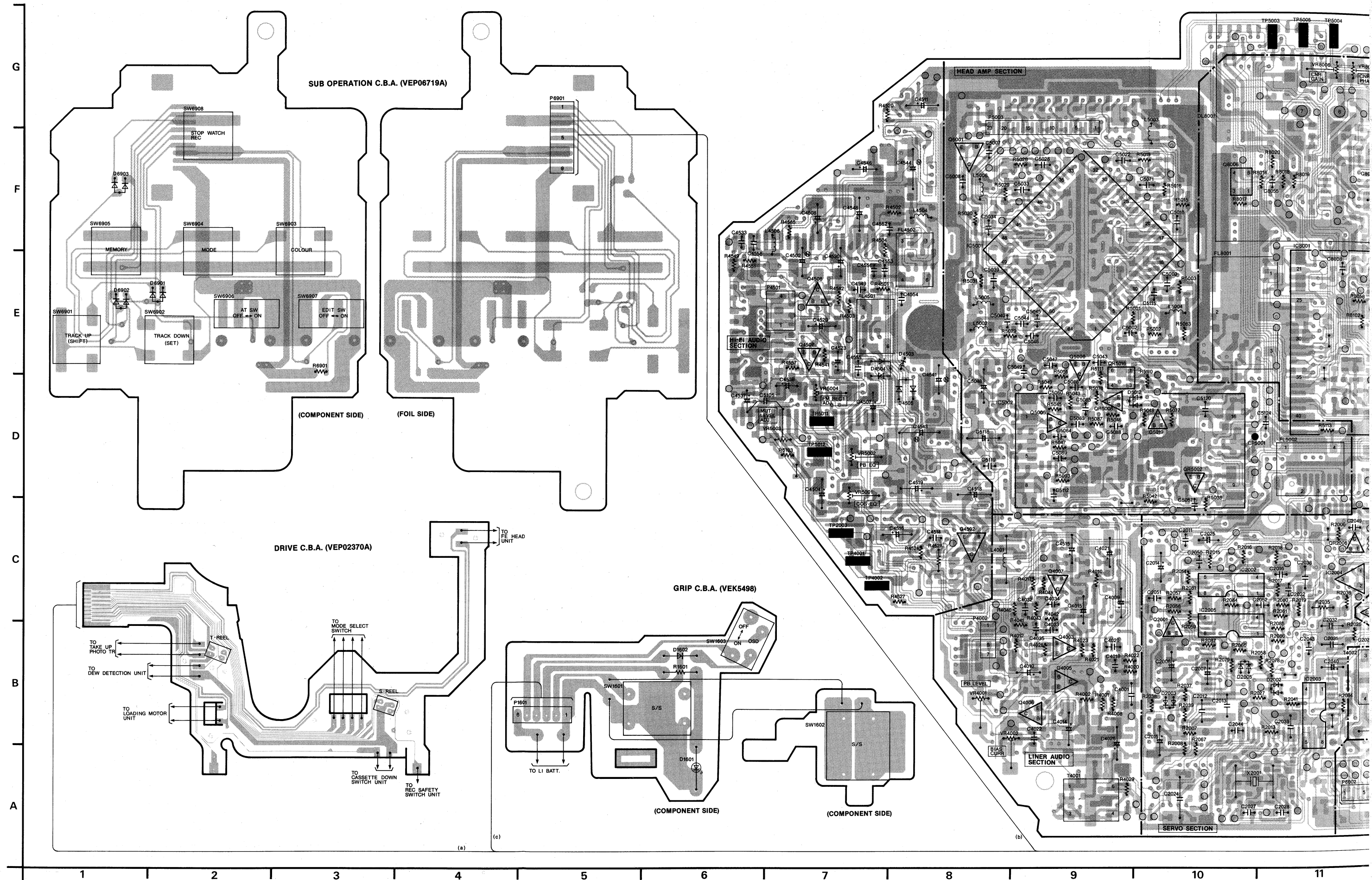
3-22. SUB MAIN (POWER, AV JACK, SUB VIDEO) C.B.A. (VEP03799B)

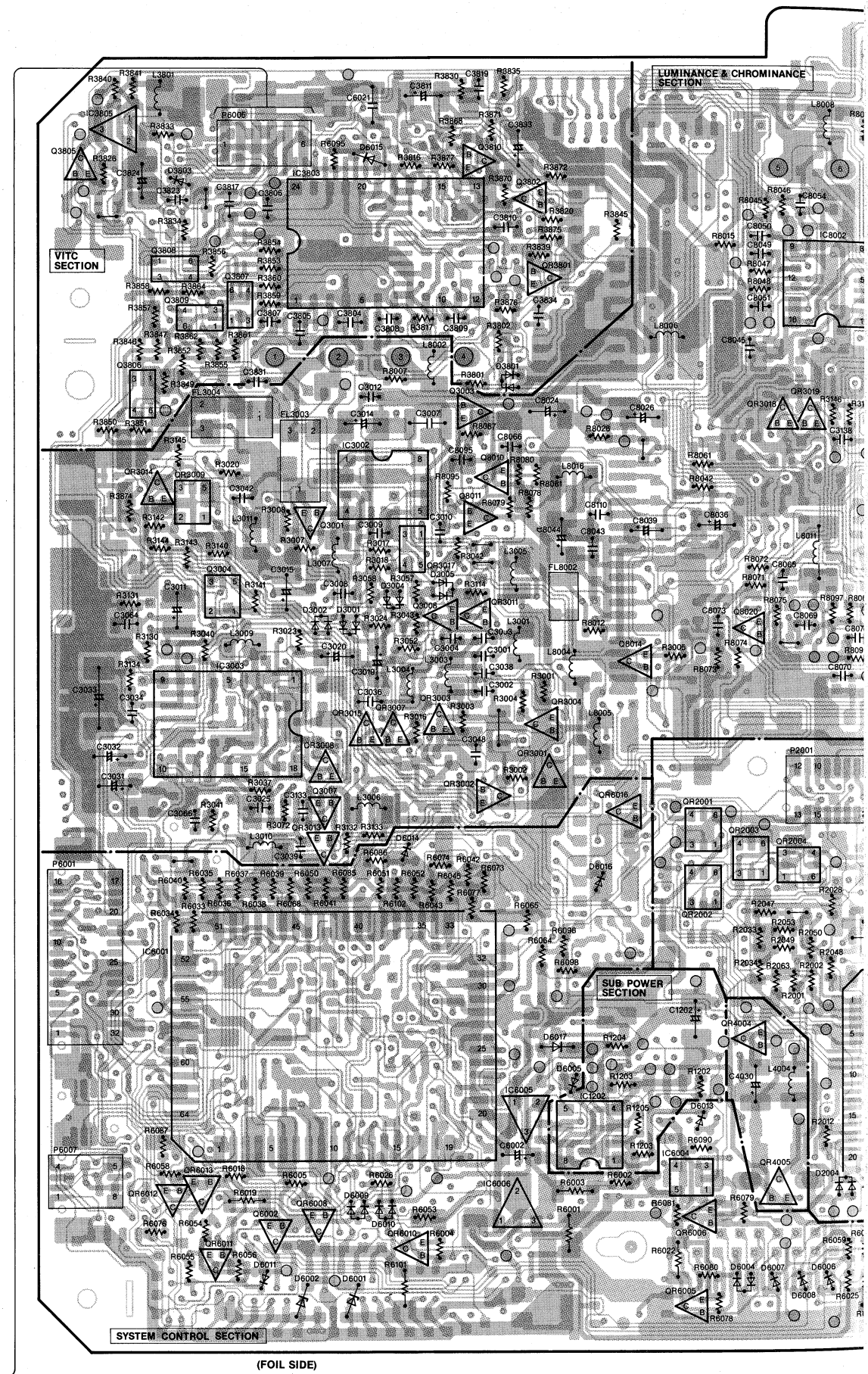
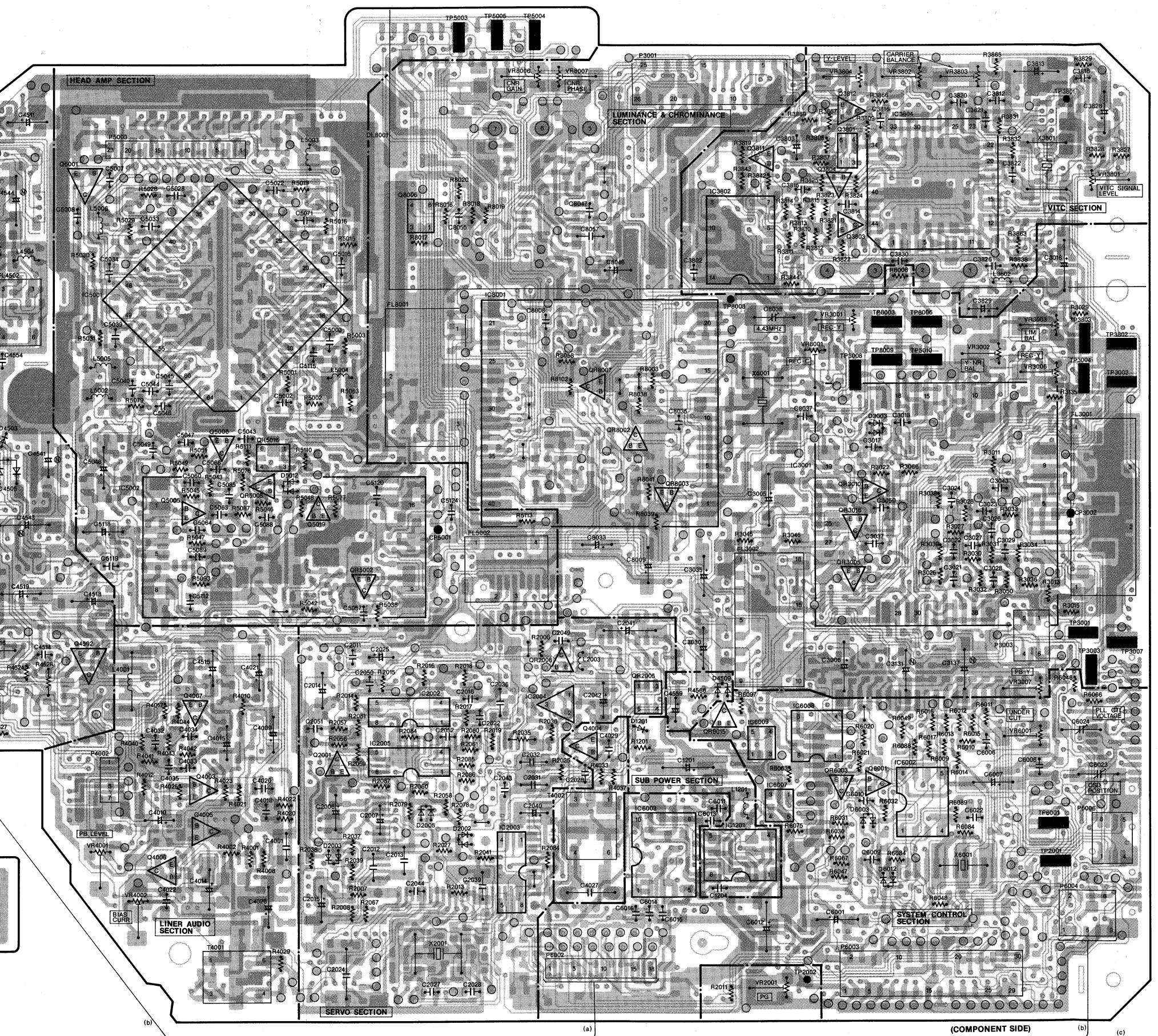


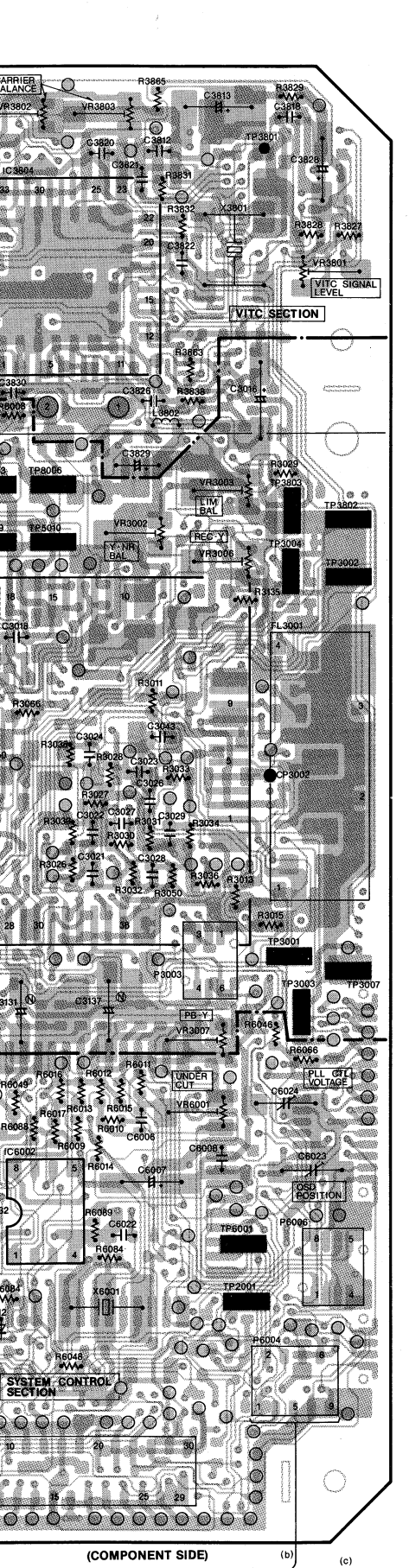


TO BATTERY

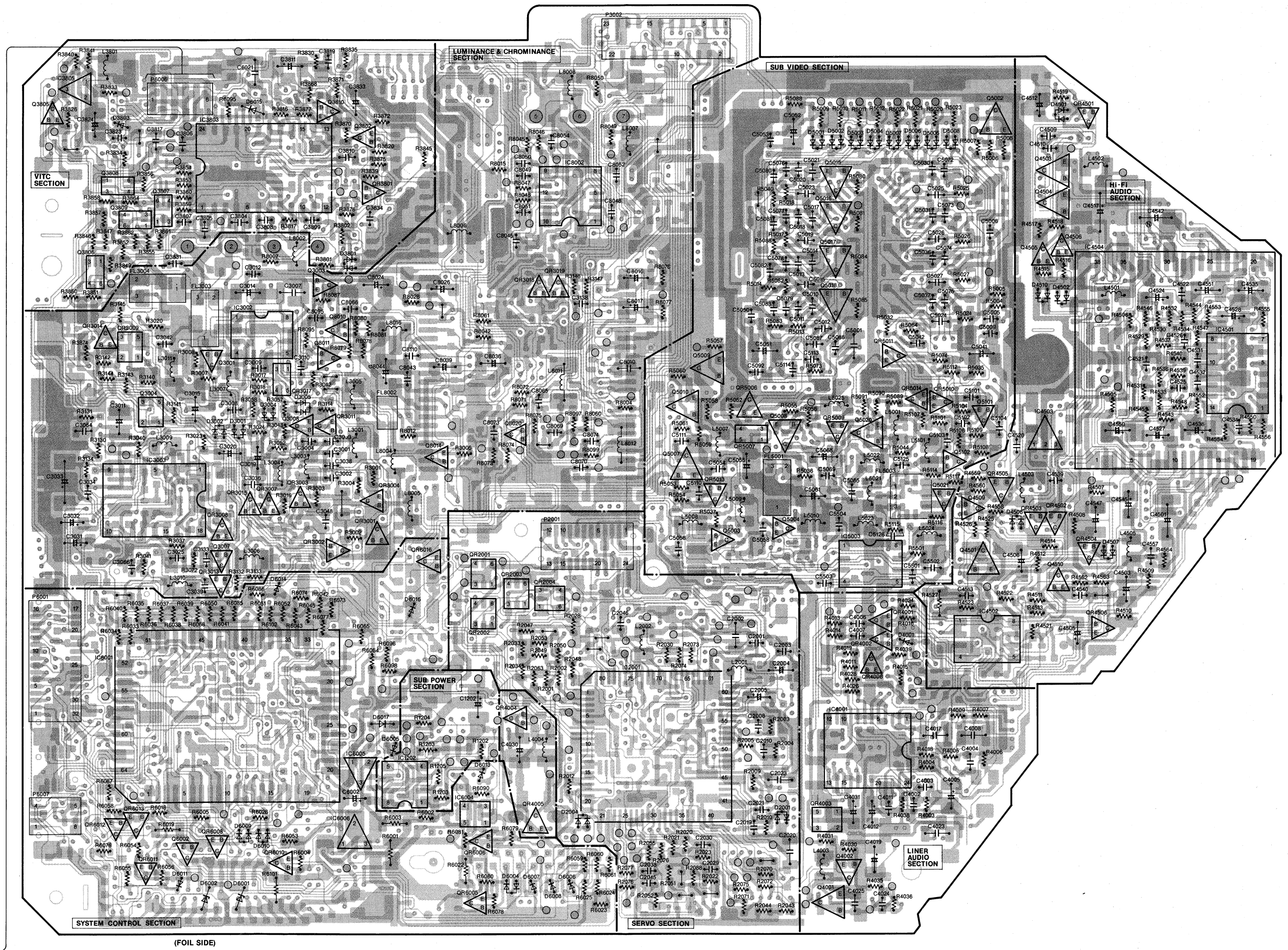
3-23. MAIN (SUB POWER, SYSTEM CONTROL, SERVO, LUMINANCE & CHROMINANCE, VITC, LINEAR AUDIO, Hi-Fi AUDIO, HEAD AMP) C.B.A. (VEP06719A)



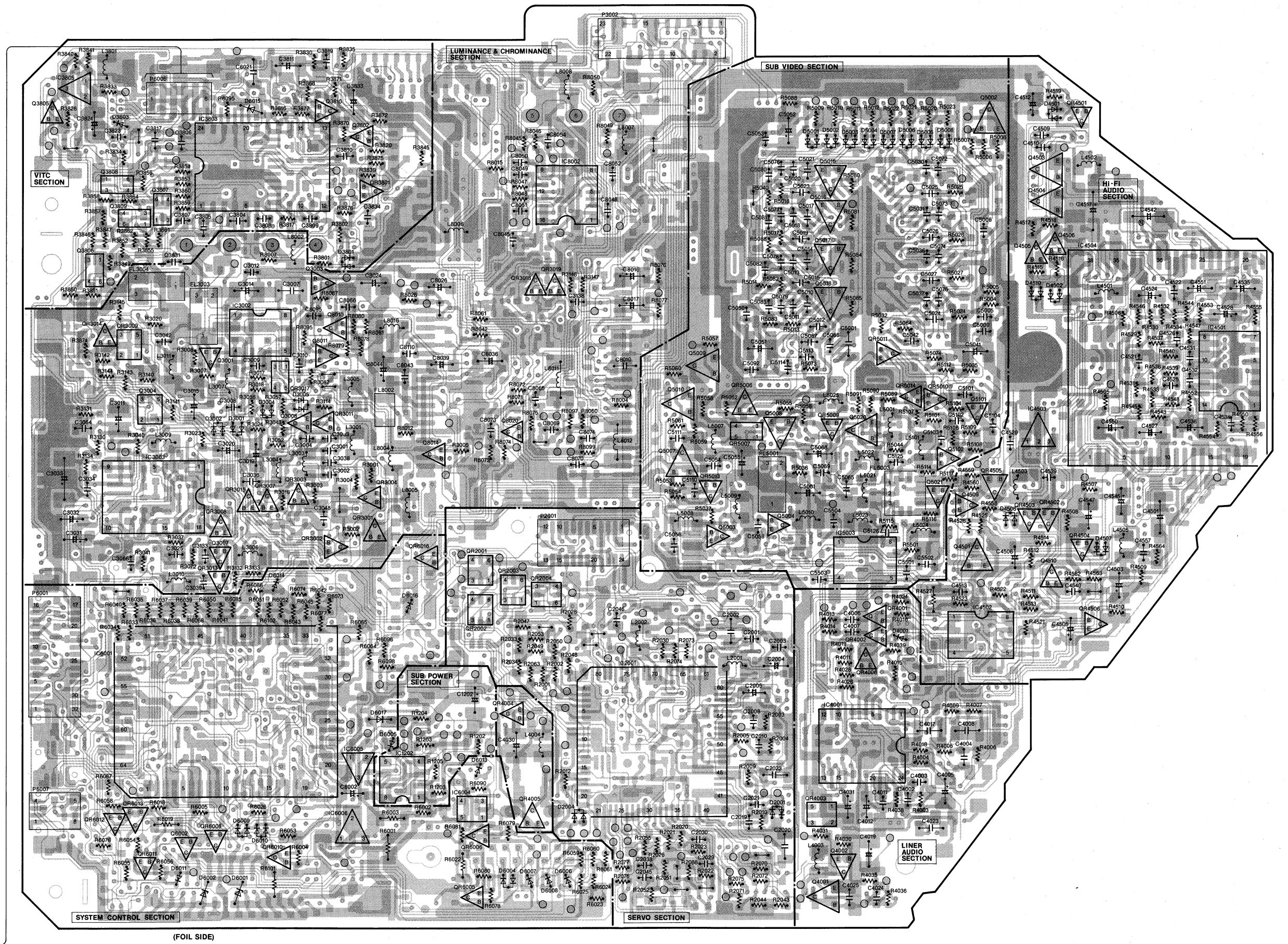
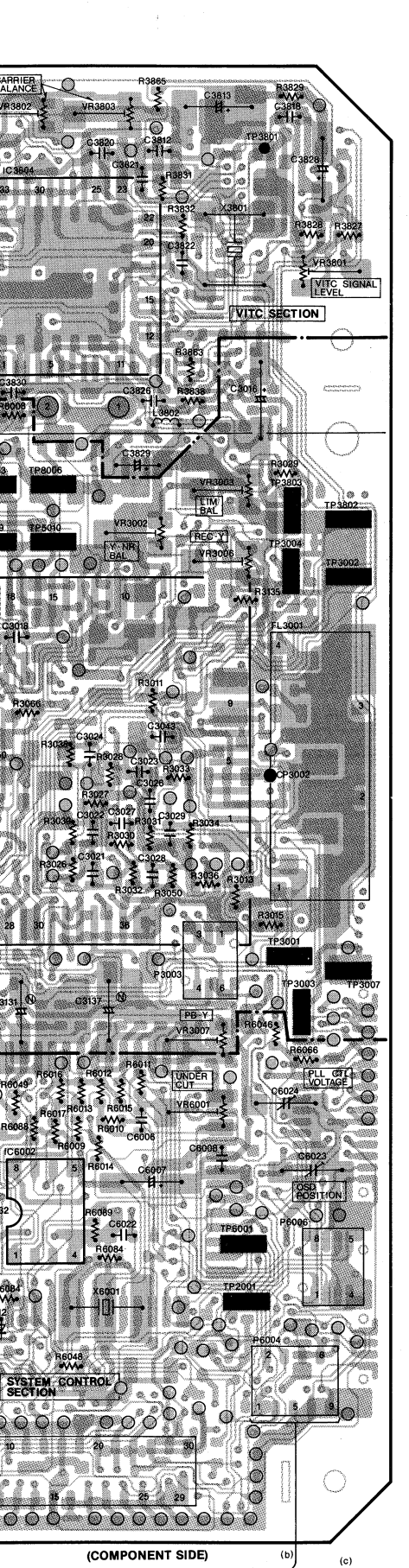




(COMPONENT SIDE)



(FOIL SIDE)



MAIN C.B.A. ADDRESS INFORMATION

LUMINANCE & CHROMINANCE Section			
Transistor			
Q3001	E-17	Ⓢ	
Q3003	E-18	Ⓢ	
Q3004	E-16	Ⓢ	
Q3007	D-17	Ⓢ	
Q3008	D-17	Ⓢ	
Q8006	F-10	Ⓢ	
Q8010	E-18	Ⓢ	
Q8011	E-18	Ⓢ	
Q8014	D-18	Ⓢ	
Q8020	D-19	Ⓢ	
Transistor & Resistor			
QR3001	D-18	Ⓢ	
QR3002	D-18	Ⓢ	
QR3003	D-17	Ⓢ	
QR3004	D-18	Ⓢ	
QR3005	D-13	Ⓢ	
QR3007	D-17	Ⓢ	
QR3008	D-17	Ⓢ	
QR3009	E-16	Ⓢ	
QR3010	D-13	Ⓢ	
QR3011	D-18	Ⓢ	
QR3013	C-17	Ⓢ	
QR3014	E-16	Ⓢ	
QR3015	D-17	Ⓢ	
QR3016	D-13	Ⓢ	
QR3017	E-17	Ⓢ	
QR3018	E-19	Ⓢ	
QR3019	E-19	Ⓢ	
QR8002	E-12	Ⓢ	
QR8003	D-12	Ⓢ	
QR8007	E-12	Ⓢ	
Integrated Circuit			
IC3001	D-13	Ⓢ	
IC3002	E-17	Ⓢ	
IC3003	D-16	Ⓢ	
IC8001	E-11	Ⓢ	
IC8002	F-19	Ⓢ	
Test Point			
TP3001	C-15	Ⓢ	
TP3002	E-15	Ⓢ	
TP3003	C-15	Ⓢ	
TP3004	E-15	Ⓢ	
TP3007	C-15	Ⓢ	
TP3008	E-13	Ⓢ	
TP8003	E-13	Ⓢ	
TP8006	E-14	Ⓢ	
TP8008	E-12	Ⓢ	
TP8009	E-13	Ⓢ	
Adjustment			
C8038	E-13	Ⓢ	
VR3001	E-13	Ⓢ	
VR3002	E-14	Ⓢ	
VR3003	E-14	Ⓢ	
VR3006	E-14	Ⓢ	
VR3007	C-14	Ⓢ	
VR8001	E-13	Ⓢ	
VR8006	G-11	Ⓢ	
VR8007	G-11	Ⓢ	
Connector			
P3001	G-12	Ⓢ	
P3002	G-20	Ⓢ	
P3003	C-14	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

VITC Section			
Transistor			
Q3801	G-13	Ⓢ	
Q3802	G-18	Ⓢ	
Q3803	F-13	Ⓢ	
Q3804	F-13	Ⓢ	
Q3805	G-16	Ⓢ	
Q3806	F-16	Ⓢ	
Q3807	F-16	Ⓢ	
Q3808	F-16	Ⓢ	
Q3809	F-16	Ⓢ	
Q3810	G-18	Ⓢ	
Q3811	F-13	Ⓢ	
Q3812	G-13	Ⓢ	
Transistor & Resistor			
QR3801	F-18	Ⓢ	
Integrated Circuit			
IC3802	F-12	Ⓢ	
IC3803	G-17	Ⓢ	
IC3804	G-14	Ⓢ	
IC3805	G-16	Ⓢ	
Test Point			
TP3801	G-15	Ⓢ	
TP3802	E-15	Ⓢ	
TP3803	E-15	Ⓢ	
Adjustment			
VR3801	F-15	Ⓢ	
VR3802	G-14	Ⓢ	
VR3803	G-14	Ⓢ	
VR3804	G-13	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

AUDIO Section			
Transistor			
Q4001	A-21	Ⓢ	
Q4002	A-21	Ⓢ	
Q4003	B-9	Ⓢ	
Q4004	C-11	Ⓢ	
Q4005	B-9	Ⓢ	
Q4006	B-9	Ⓢ	
Q4007	C-9	Ⓢ	
Transistor & Resistor			
QR4001	C-22	Ⓢ	
QR4002	C-22	Ⓢ	
QR4003	B-21	Ⓢ	
QR4004	B-19	Ⓢ	
QR4005	B-19	Ⓢ	
QR4006	C-22	Ⓢ	
Integrated Circuit			
IC4001	B-21	Ⓢ	
Test Point			
TP4001	C-7	Ⓢ	
TP4002	C-7	Ⓢ	
Adjustment			
VR4001	B-8	Ⓢ	
VR4002	B-8	Ⓢ	
Connector			
P4002	C-8	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

Hi-Fi AUDIO Section			
Transistor			
Q4501	C-22	Ⓢ	
Q4502	C-8	Ⓢ	
Q4503	F-23	Ⓢ	
Q4504	F-23	Ⓢ	
Q4505	F-23	Ⓢ	
Q4506	F-23	Ⓢ	
Q4507	E-7	Ⓢ	
Q4508	E-7	Ⓢ	
Q4509	D-22	Ⓢ	
Q4510	C-23	Ⓢ	
Transistor & Resistor			
QR4501	G-23	Ⓢ	
QR4502	D-23	Ⓢ	
QR4503	D-23	Ⓢ	
QR4504	D-23	Ⓢ	
QR4505	D-22	Ⓢ	
QR4506	C-23	Ⓢ	
Integrated Circuit			
IC4501	E-24	Ⓢ	
IC4502	C-22	Ⓢ	
IC4503	D-23	Ⓢ	
IC4504	F-23	Ⓢ	
Connector			
P4501	E-7	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

SERVO Section			
Transistor			
Q2001	C-10	Ⓢ	
Transistor & Resistor			
QR2001	C-19	Ⓢ	
QR2002	C-19	Ⓢ	
QR2003	C-19	Ⓢ	
QR2004	C-19	Ⓢ	
QR2005	C-12	Ⓢ	
QR2006	C-11	Ⓢ	
Integrated Circuit			
IC2001	C-20	Ⓢ	
IC2002	C-10	Ⓢ	
IC2003	B-11	Ⓢ	
IC2004	C-11	Ⓢ	
IC2005	C-10	Ⓢ	
Test Point			
TP2001	B-14	Ⓢ	
TP2002	A-13	Ⓢ	
TP2003	C-7	Ⓢ	
Adjustment			
VR2001	A-13	Ⓢ	
Connector			
P2001	D-19	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

SYSTEM CONTROL Section			
Transistor			
Q6001	B-13	Ⓢ	
Q6002	A-17	Ⓢ	
Transistor & Resistor			
QR6003	B-13	Ⓢ	
QR6005	A-19	Ⓢ	
QR6006	A-19	Ⓢ	
QR6008	A-17	Ⓢ	
QR6010	A-17	Ⓢ	
QR6011	A-16	Ⓢ	
QR6012	B-16	Ⓢ	
QR6013	B-16	Ⓢ	
QR6015	C-12	Ⓢ	
QR6016	C-18	Ⓢ	
Integrated Circuit			
IC6001	C-16	Ⓢ	
IC6002	B-14	Ⓢ	
IC6003	B-12	Ⓢ	
IC6004	B-19	Ⓢ	
IC6005	B-18	Ⓢ	
IC6006	B-18	Ⓢ	
IC6007	B-13	Ⓢ	
IC6008	C-13	Ⓢ	
IC6009	C-13	Ⓢ	
Test Point			
TP6001	B-14	Ⓢ	
Adjustment			
VR6001	C-14	Ⓢ	
C6023	B-15	Ⓢ	
C6024	C-15	Ⓢ	
Connector			
P1601	B-5	Ⓢ	
P6001	C-16	Ⓢ	
P6002	A-11	Ⓢ	
P6003	A-13	Ⓢ	
P6004	B-15	Ⓢ	
P6005	G-16	Ⓢ	
P6006	B-15	Ⓢ	
P6007	B-16	Ⓢ	
P6901	G-5	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

SUB POWER Section			
Integrated Circuit			
IC1201	B-12	Ⓢ	
IC1202	B-18	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

HEAD AMP Section			
Transistor			
Q5001	F-8	Ⓢ	
Q5002	G-22	Ⓢ	
Q5003	D-20	Ⓢ	
Q5004	D-21	Ⓢ	
Q5005	D-9	Ⓢ	
Q5006	E-9	Ⓢ	
Q5007	D-20	Ⓢ	
Q5008	D-21	Ⓢ	
Q5009	E-20	Ⓢ	
Q5010	E-20	Ⓢ	
Q5015	F-21	Ⓢ	
Q5016	F-21	Ⓢ	
Q5017	F-21	Ⓢ	
Q5018	E-21	Ⓢ	
Q5019	D-10	Ⓢ	
Q5020	D-21	Ⓢ	
Q5021	D-22	Ⓢ	
Q5101	E-22	Ⓢ	
Q5102	D-22	Ⓢ	
Transistor & Resistor			
QR5002	D-10	Ⓢ	
QR5006	E-21	Ⓢ	
QR5007	D-21	Ⓢ	
QR5008	D-9	Ⓢ	
QR5009	D-21	Ⓢ	
QR5010	E-22	Ⓢ	
QR5011	E-22	Ⓢ	
QR5013	D-20	Ⓢ	
QR5014	E-22	Ⓢ	
QR5016	E-9	Ⓢ	
Integrated Circuit			
IC5001	F-8	Ⓢ	
IC5002	D-9	Ⓢ	
IC5003	D-21	Ⓢ	
Test Point			
TP5003	G-11	Ⓢ	
TP5004	G-11	Ⓢ	
TP5005	G-11	Ⓢ	
TP5010	E-14	Ⓢ	
TP5011	D-7	Ⓢ	
TP5012	D-7	Ⓢ	
Adjustment			
VR5001	D-7	Ⓢ	
VR5002	D-7	Ⓢ	
VR5003	D-7	Ⓢ	
VR5004	D-7	Ⓢ	
Connector			
P5003	G-8	Ⓢ	

ADDRESS INFORMATION
 Ⓢ...COMPONENT SIDE
 Ⓢ...FOIL SIDE

SYSTEM CONTROL ICs VOLTAGE CHART

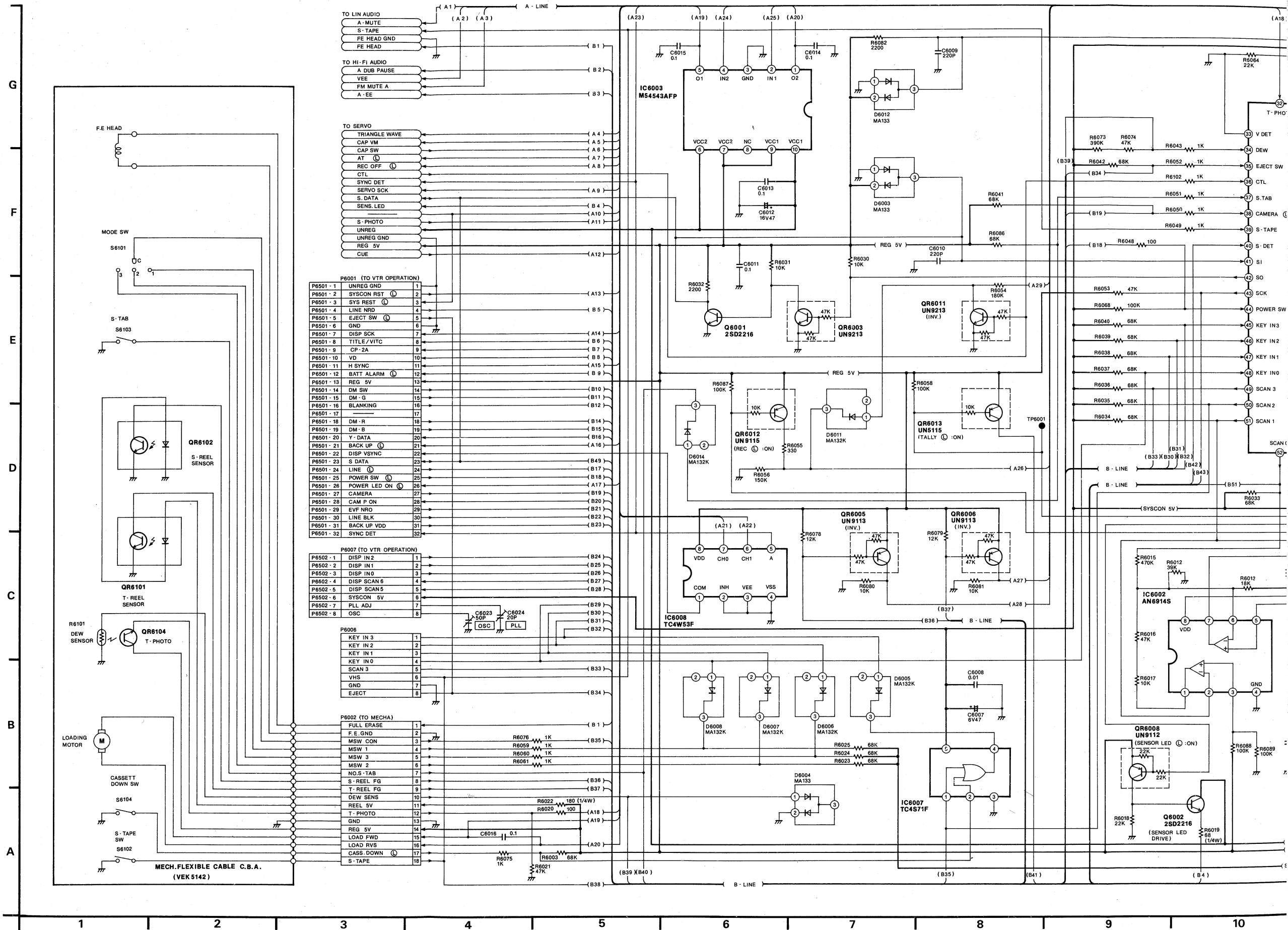
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.6	0	4.9	4.9	4.8	4.8	5.0	5.1	0	4.9	4.5	4.7	4.9	4.6	5.0	4.9	0	0	0	0
REC/PLAY	0	4.9	4.9	4.9	0	4.9	5.0	2.6	2.5	4.9	4.7	4.9	4.7	4.9	0	0	4.9	0	0	0
F.F.	4.6	0	4.8	4.8	4.8	4.8	5.0	2.6	2.5	4.9	4.8	4.9	4.9	4.8	0	0	4.8	4.8	4.6	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	4.7	4.5	0.2	0.2	0	0	0	5.1	0	0	0	0	0	4.8	0	4.9	0	4.0	0
REC/PLAY	0	0.2	0	0	0	0	—	—	0	0.6	0	0	0	0	4.9	2.5	4.9	0	4.0	0
F.F.	0	0.2	0	0	0	0	2.5	2.4	4.9	0	0	0	0	0	4.8	2.5	0.5	0	4.0	0
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.7	4.0	4.3	4.8	4.9	4.9	4.8	4.7	4.8	4.8	4.7	4.4	4.9	4.9	4.9	0.2	4.9	4.9	4.9	0
REC/PLAY	4.7	4.0	4.4	4.4	4.9	4.9	0	4.8	4.9	4.9	4.8	4.4	4.9	4.9	4.9	3.7	4.9	4.9	4.9	0
F.F.	4.9	4.1	4.3	4.8	4.8	4.8	4.8	4.7	4.8	4.8	4.7	4.4	4.3	4.9	4.9	0.1	4.9	4.9	4.9	0
REF. NO.	IC6001																			
MODE	61	62	63	64																
STOP	4.9	4.9	0	4.9																
REC/PLAY	0	4.9	0	0																
F.F.	4.9	1.4	0	4.8																
REF. NO.	IC6002										IC6003									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8	9	10
STOP	0.1	4.7	2.5	0	3.9	2.9	4.9	6.4			0	0	0	0	2.6	6.4	4.9	5.5	4.9	6.4
REC/PLAY	0.1	4.8	2.5	0	3.9	2.9	4.9	6.4			0	0	0.1	0	0	6.4	5.0	3.0	4.9	6.4
F.F.	0.1	4.7	2.5	0	3.7	2.9	4.9	0			0.1	0	0	0	0	6.1	4.9	0	4.9	6.1
REF. NO.	IC6004										IC6005									
MODE	1	2	3	4	5						1	2	3							
STOP	4.7	0	0	4.8	4.9						0	5.0	5.0							
REC/PLAY	4.8	0	0	4.8	4.9						0	0	5.0							
F.F.	4.7	0	0	4.8	4.9						0	5.0	5.0							
REF. NO.	IC6006										IC6007									
MODE	1	2	3								1	2	3	4	5					
STOP	0	6.4	5.1								4.9	4.6	0	4.9	4.9					
REC/PLAY	0	6.4	5.1								4.9	4.9	0	4.9	4.9					
F.F.	0	6.2	5.1								4.8	4.9	0	4.9	4.9					
REF. NO.	IC6008										IC6009									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	4.8	0	0	0	0	0.5	4.8	4.9			4.7	4.7	0	4.9	4.9					
REC/PLAY	4.9	0	0	0	0	0.8	4.9	5.0			4.7	4.7	0	4.9	5.0					
F.F.	0	0	0	0	0	0	4.8	4.9			4.7	4.7	0	4.9	4.9					

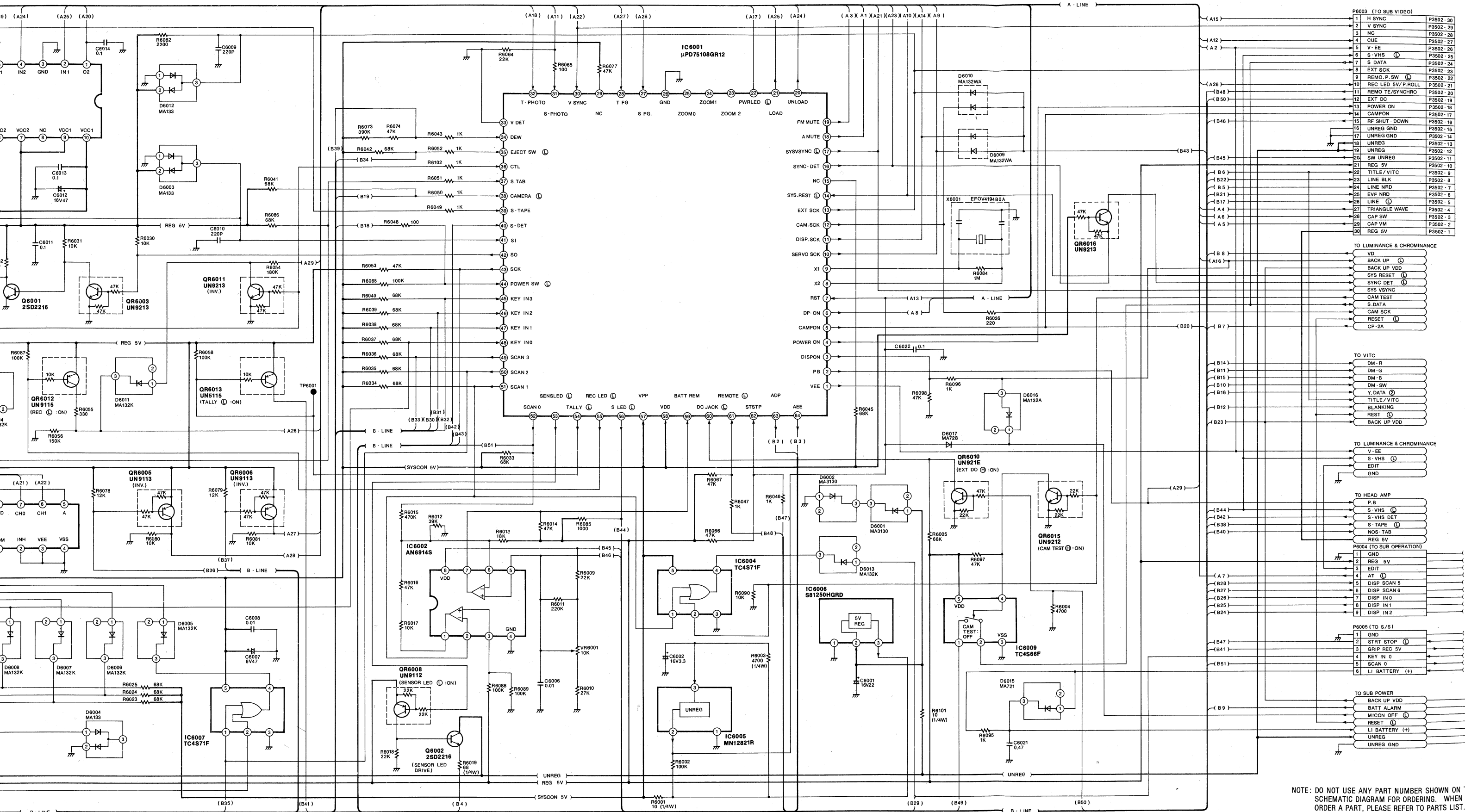
SYSTEM CONTROL TRANSISTORS VOLTAGE CHART

REF. NO.	Q6001			Q6002														
MODE	E	C	B	E	C	B												
STOP	0	4.7	0.1	0	6.4	0												
REC/PLAY	0	4.7	0	0	6.4	0												
F.F.	0	4.7	0.1	4.9	0.6	4.3												
REF. NO.	QR6003			QR6005			QR6006			QR6008			QR6010			QR6011		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.1	4.0	4.9	4.9	2.0	4.9	0	4.8	4.9	0	4.9	0	0	6.8	0	0	4.9
REC/PLAY	0	0.1	4.0	5.0	—	—	5.0	—	—	5.0	0	4.9	0	0	6.8	0	1.2	2.5
F.F.	0	0.1	4.0	4.9	2.5	3.3	4.9	2.4	3.4	4.9	0.6	4.3	0	0	6.6	0	0	2.5
REF. NO.	QR6012			QR6013			QR6015											
MODE	E	C	B	E	C	B	E	C	B									
STOP	4.9	0	4.9	4.9	0.1	4.9	0	4.9	0									
REC/PLAY	4.9	—0.1	4.9	4.9	0.1	4.9	0	4.9	0									
F.F.	4.9	0	4.9	4.9	0.2	4.9	0	4.9	0									

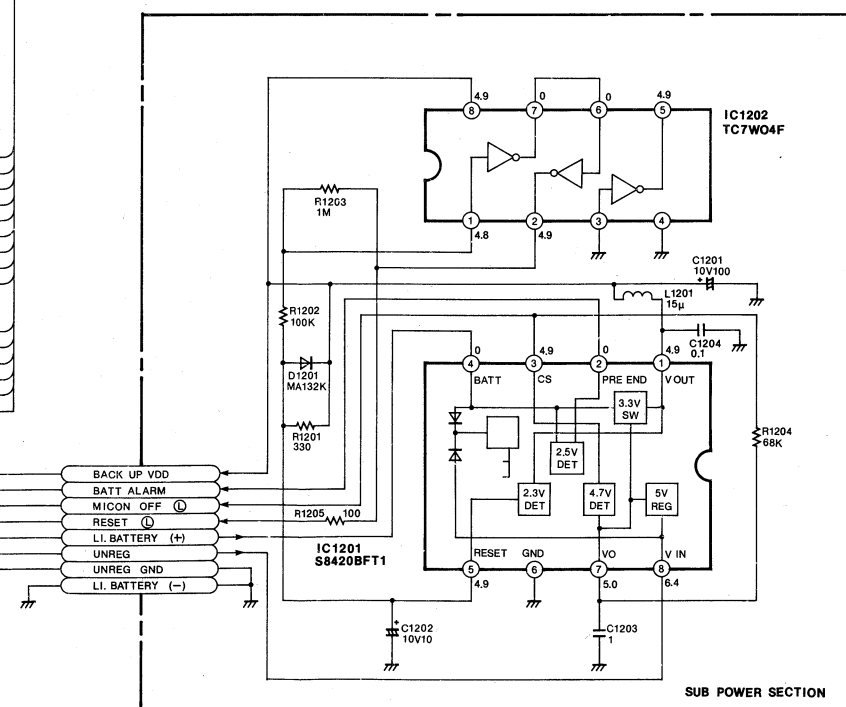
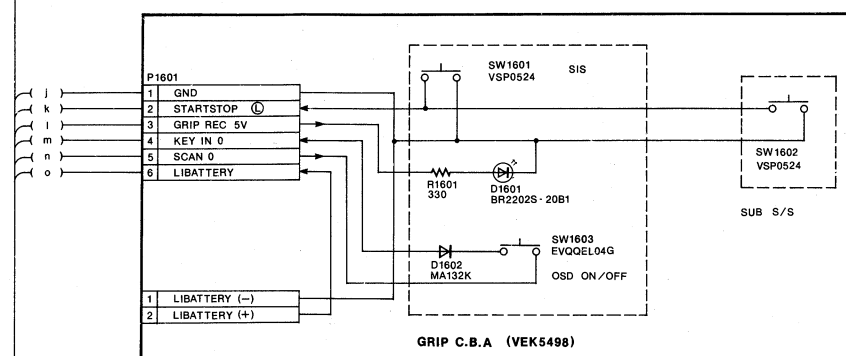
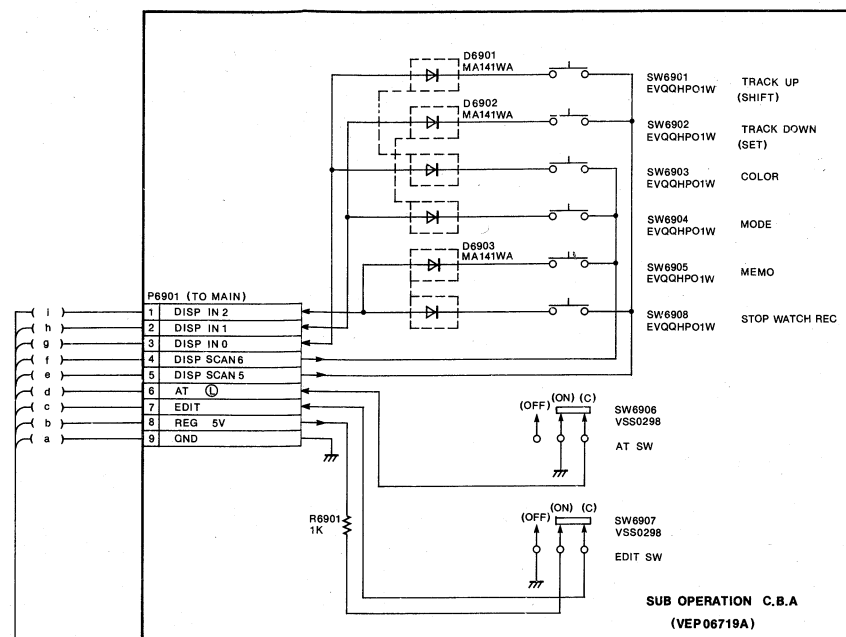
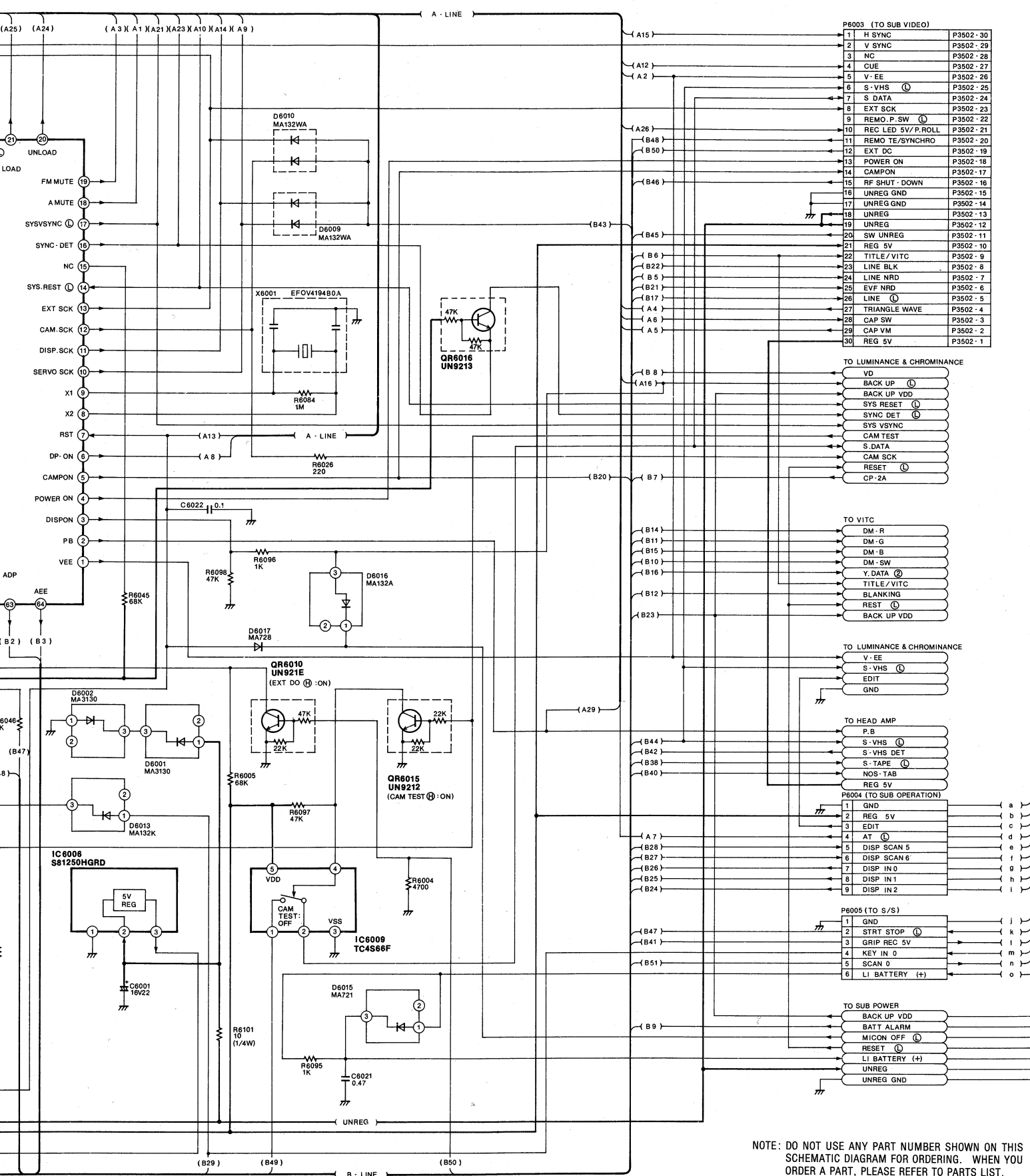
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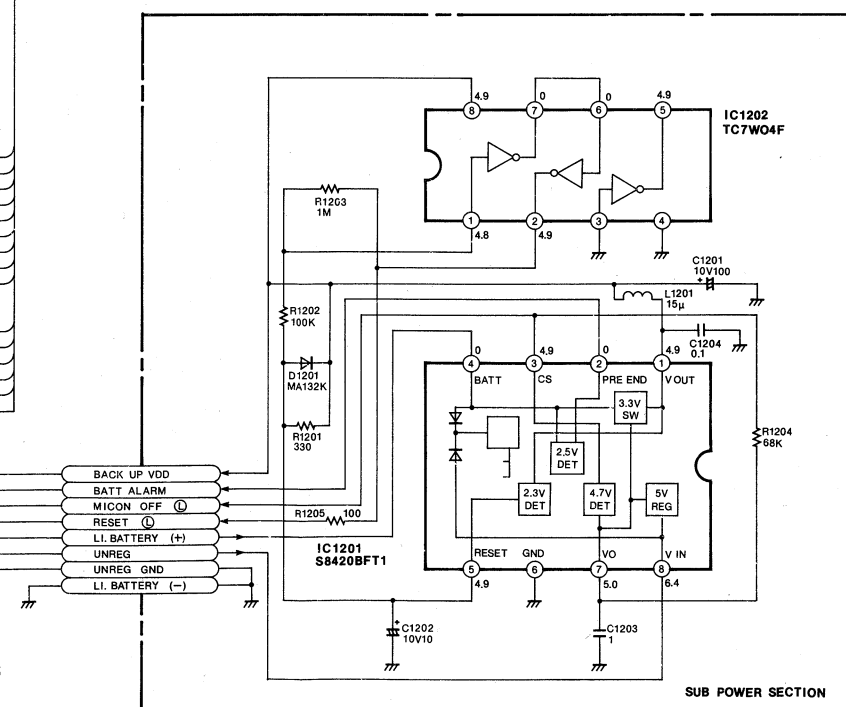
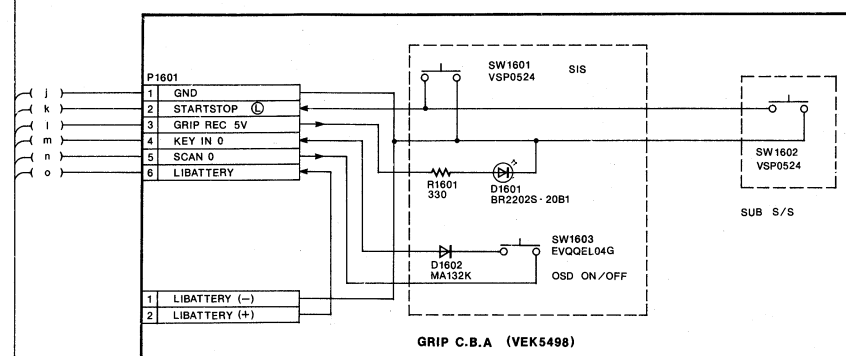
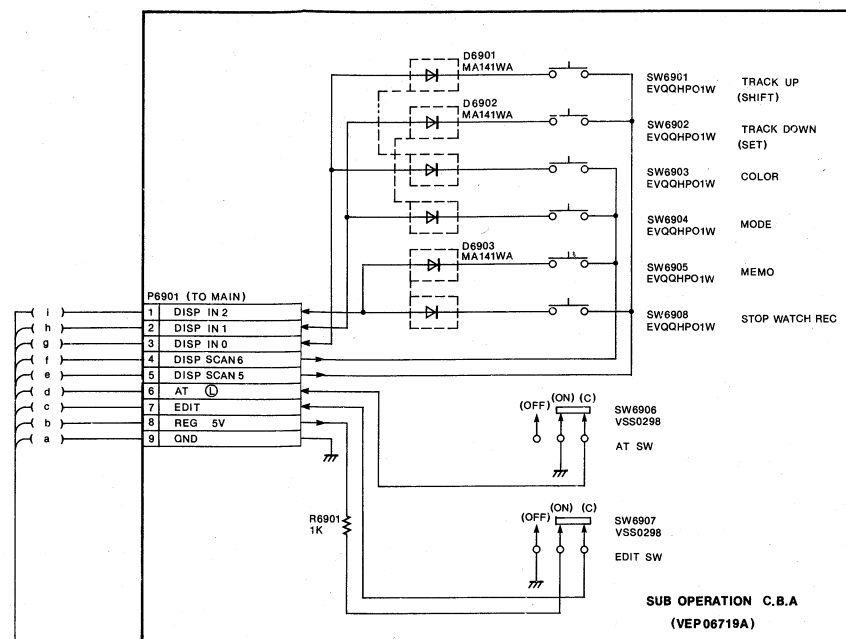
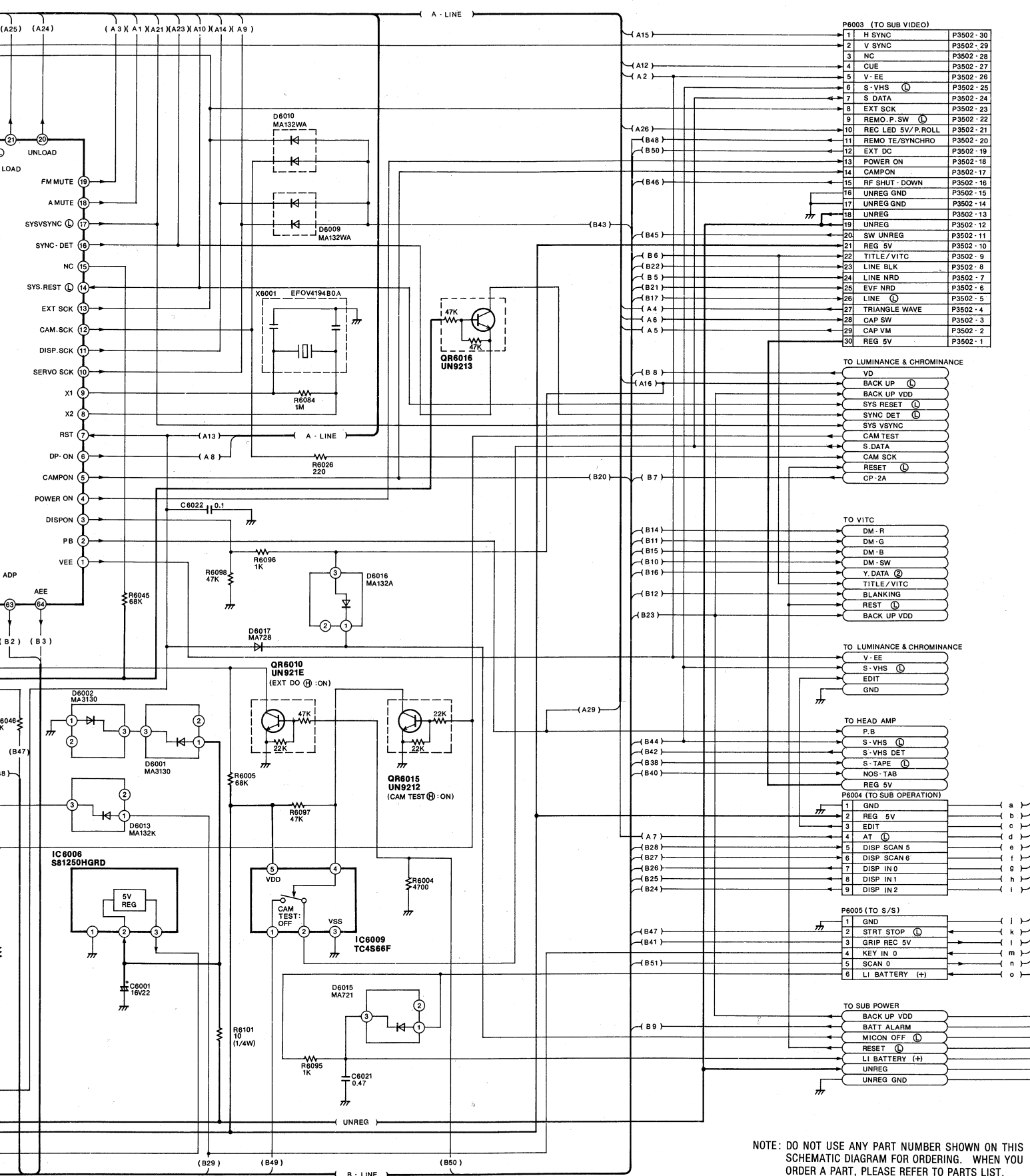
3-24. SUB POWER & SYSTEM CONTROL SCHEMATIC DIAGRAM





NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN ORDERING A PART, PLEASE REFER TO PARTS LIST.



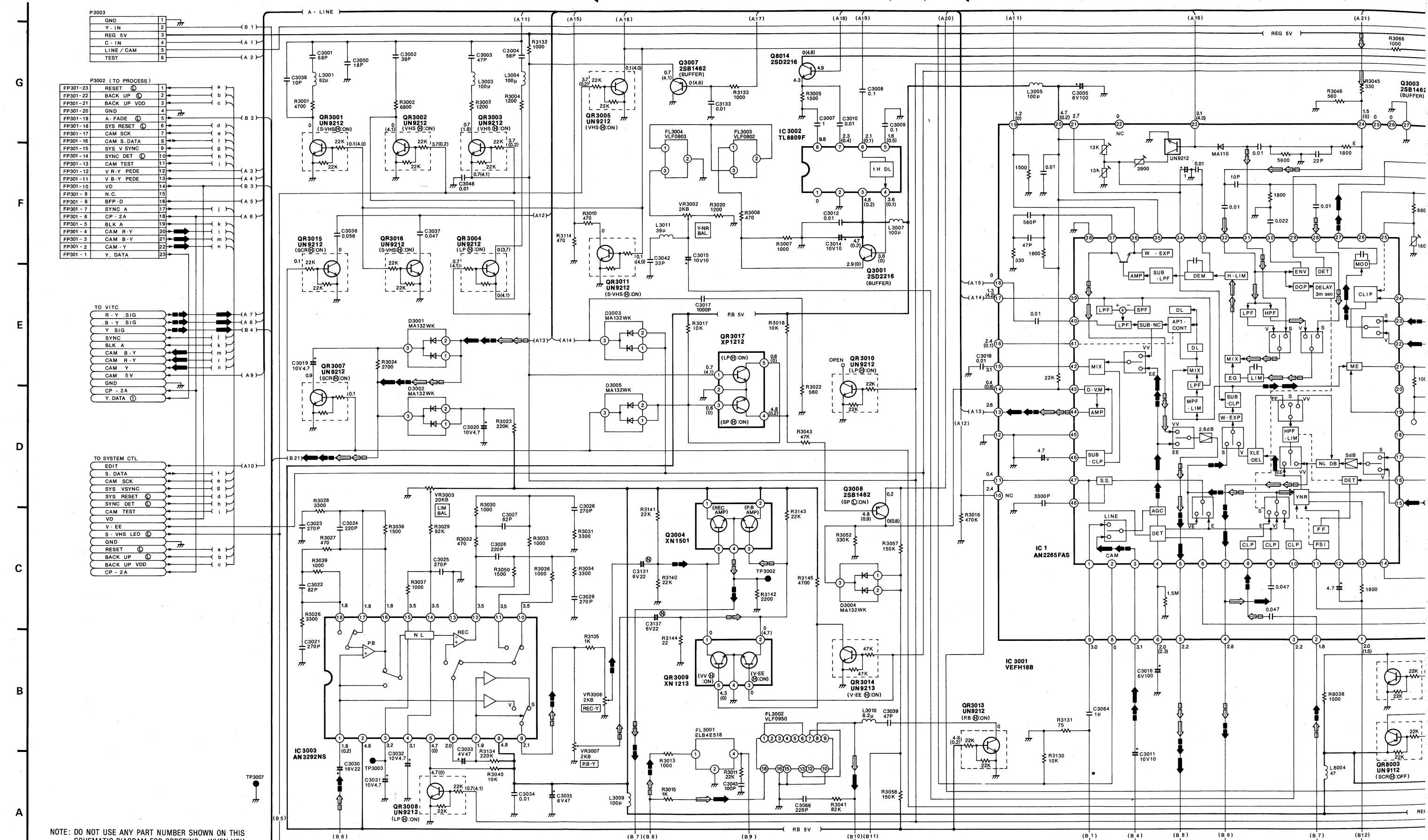


3-25. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE(VHS)

MAIN SIGNAL PATH IN REC MODE(S-VHS)

MAIN S



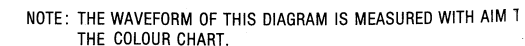
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE COLOUR CHART.

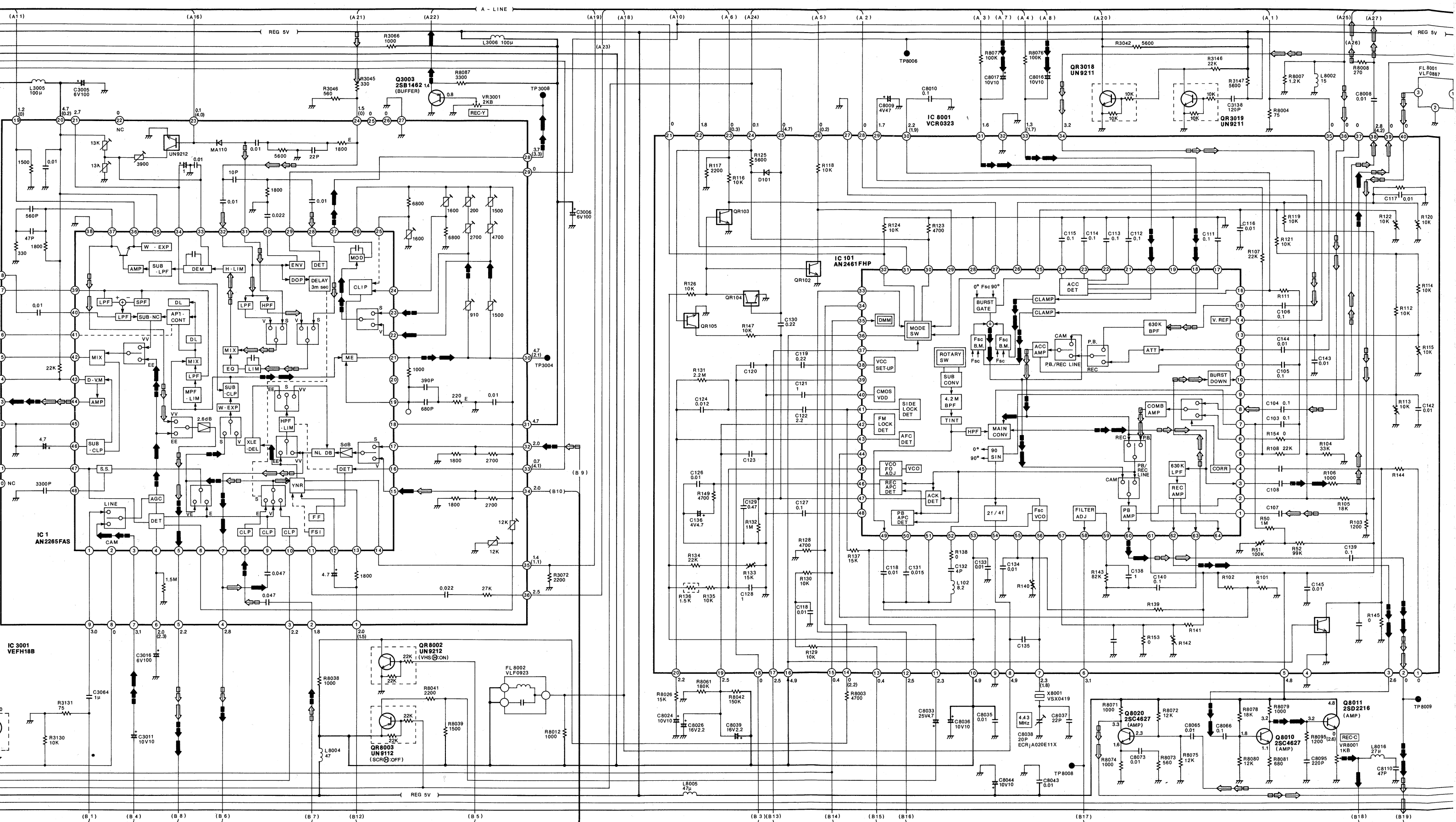
← MAIN S



MAIN SIGNAL PATH IN REC MODE(S-VHS)

← MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)

← □ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)

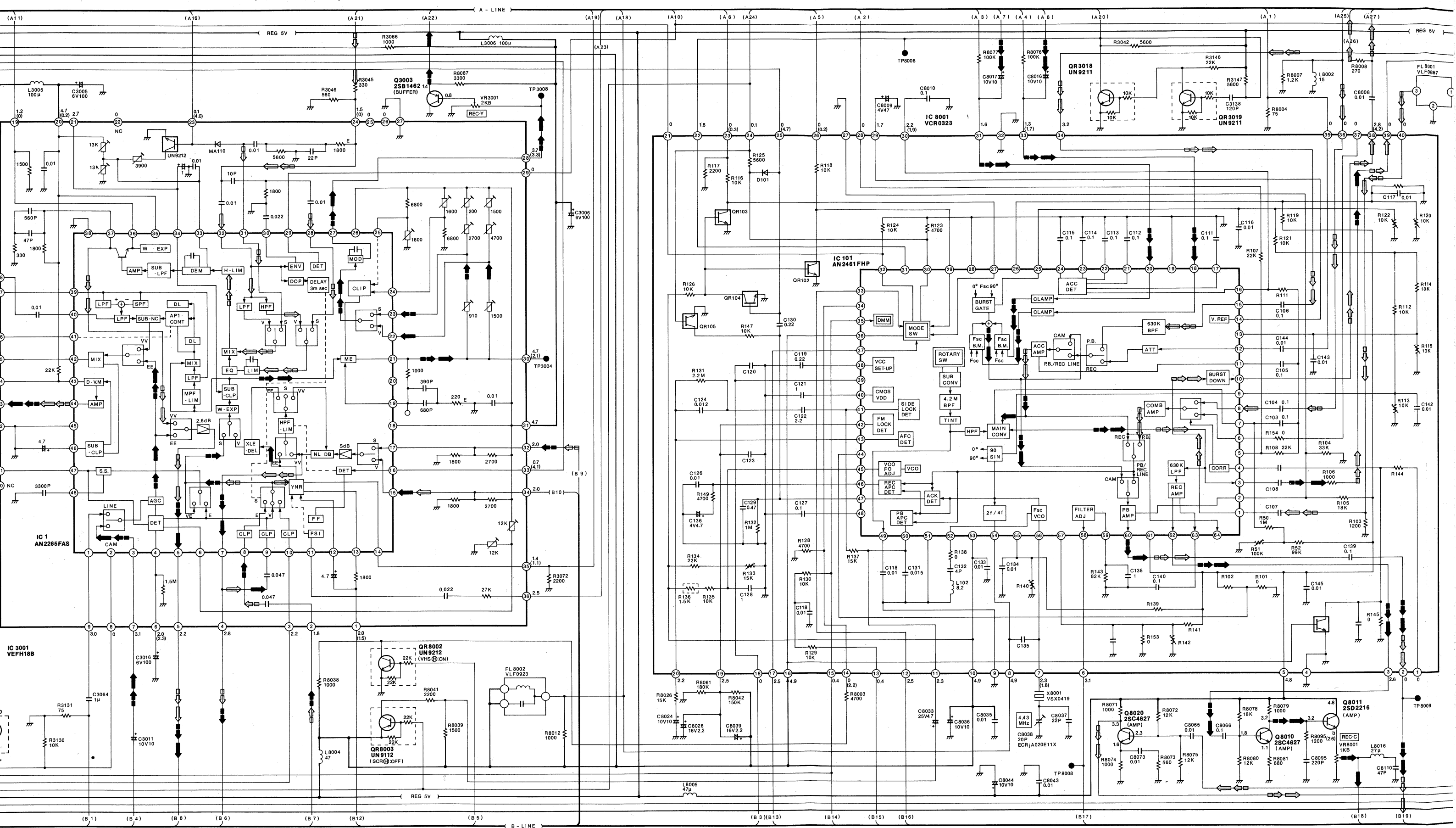


NOTES: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE COLOUR CHART.

MAIN SIGNAL PATH IN REC MODE(S-VHS)

← MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)

← MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)

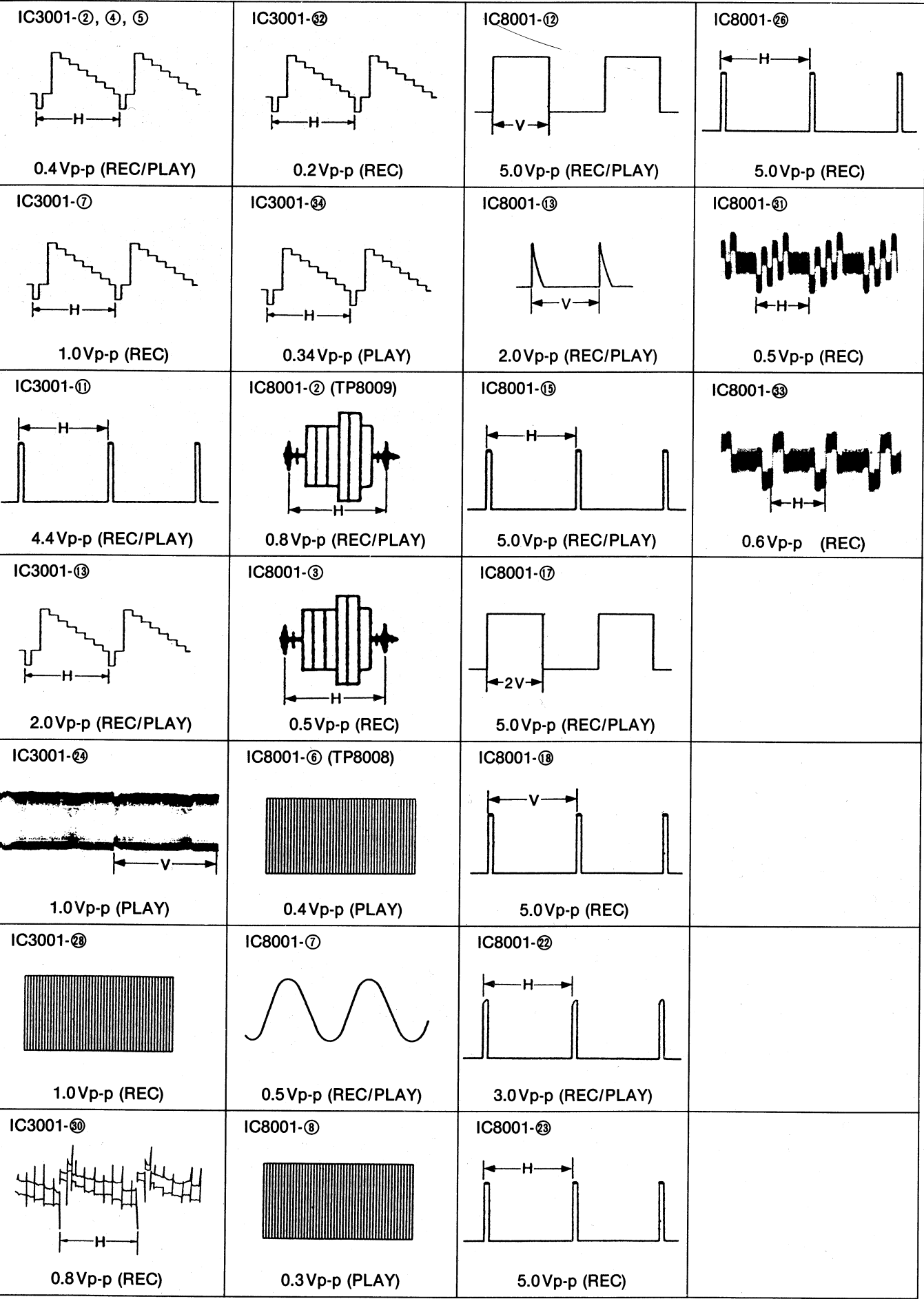


SETS ON THIS DIAGRAM IS PLAYBACK MODE

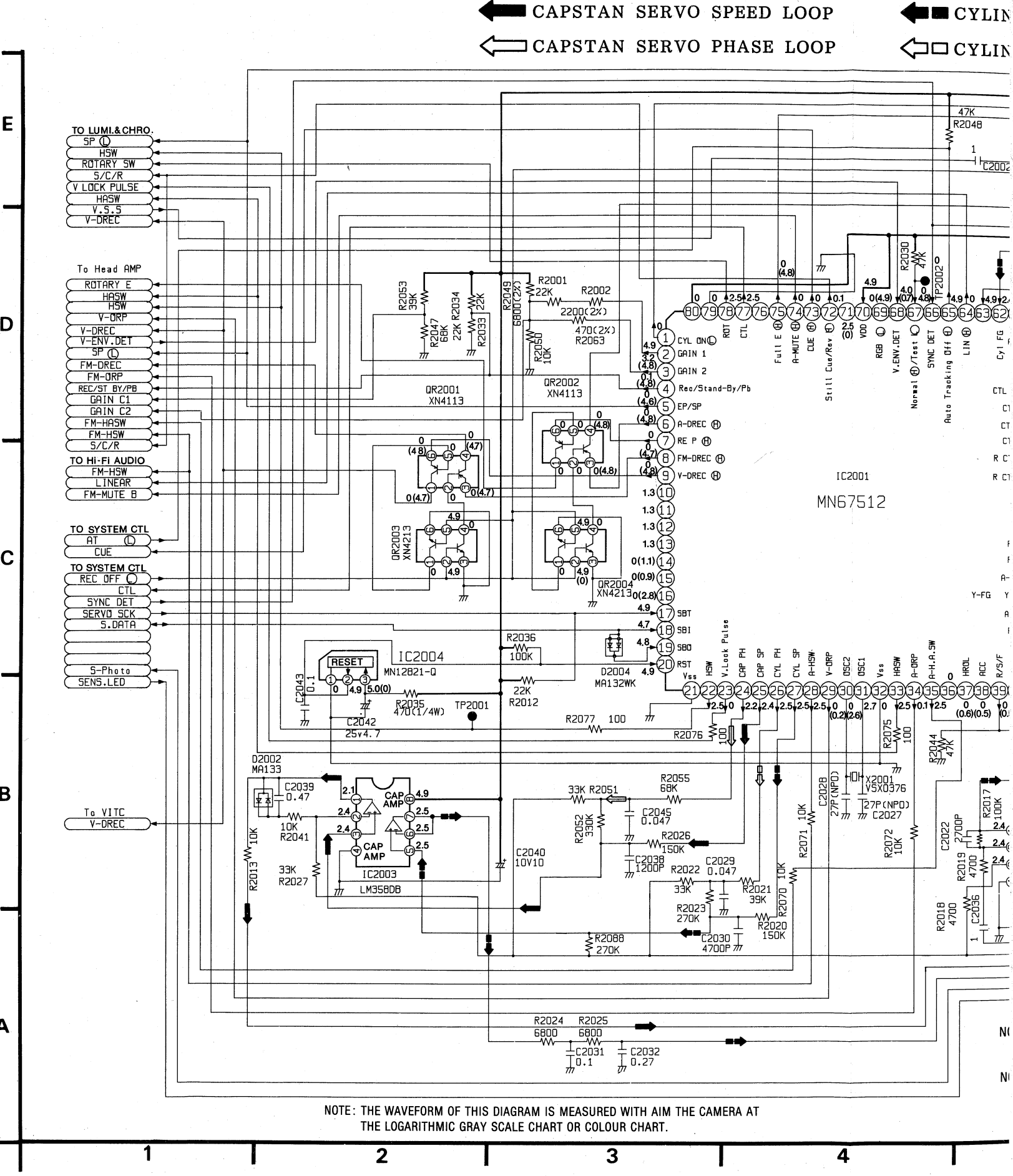
NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE COLOUR CHART.



LUMINANCE & CHROMINANCE CIRCUIT WAVEFORM

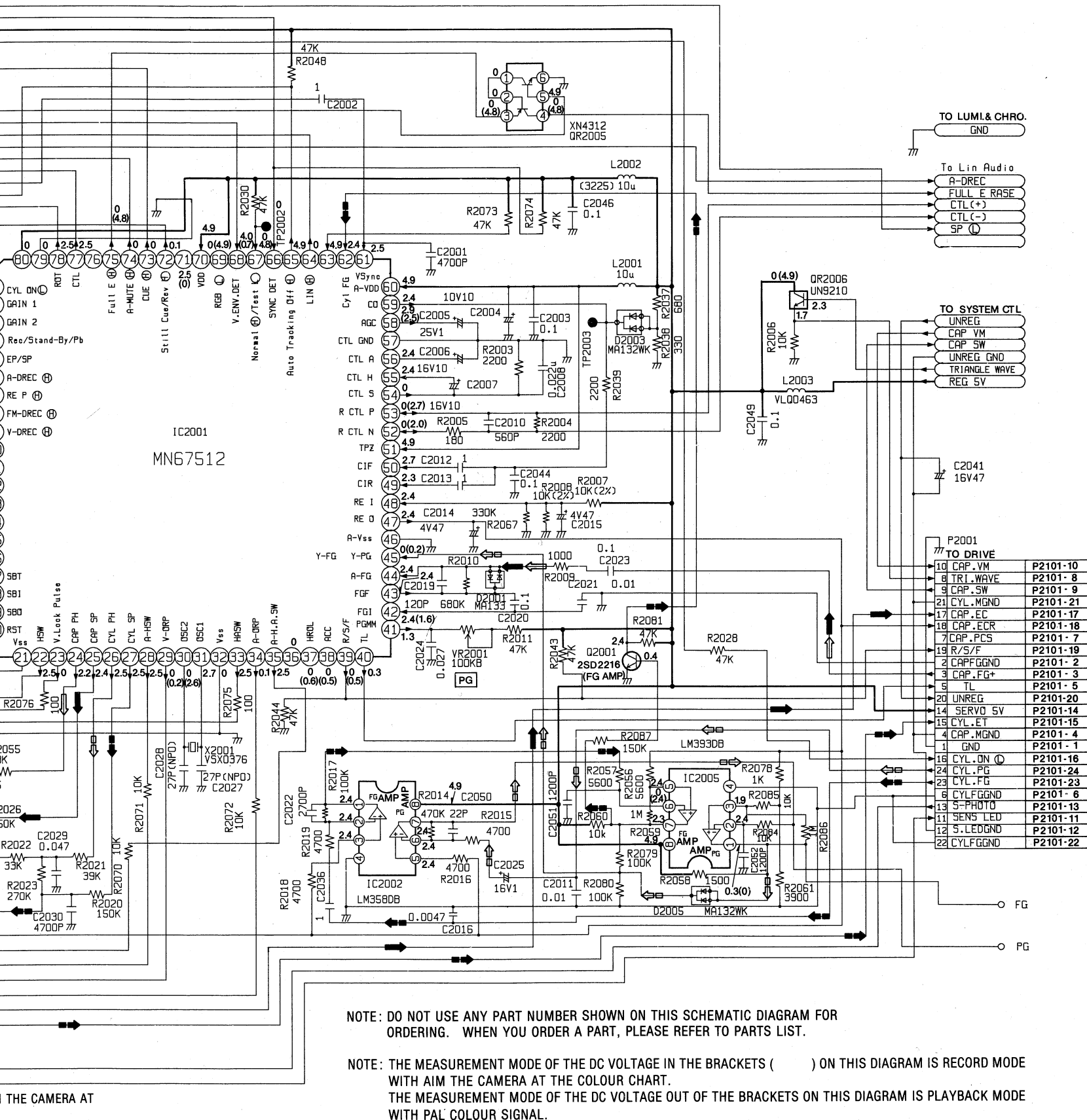


3-26. SERVO SCHEMATIC DIAGRAM

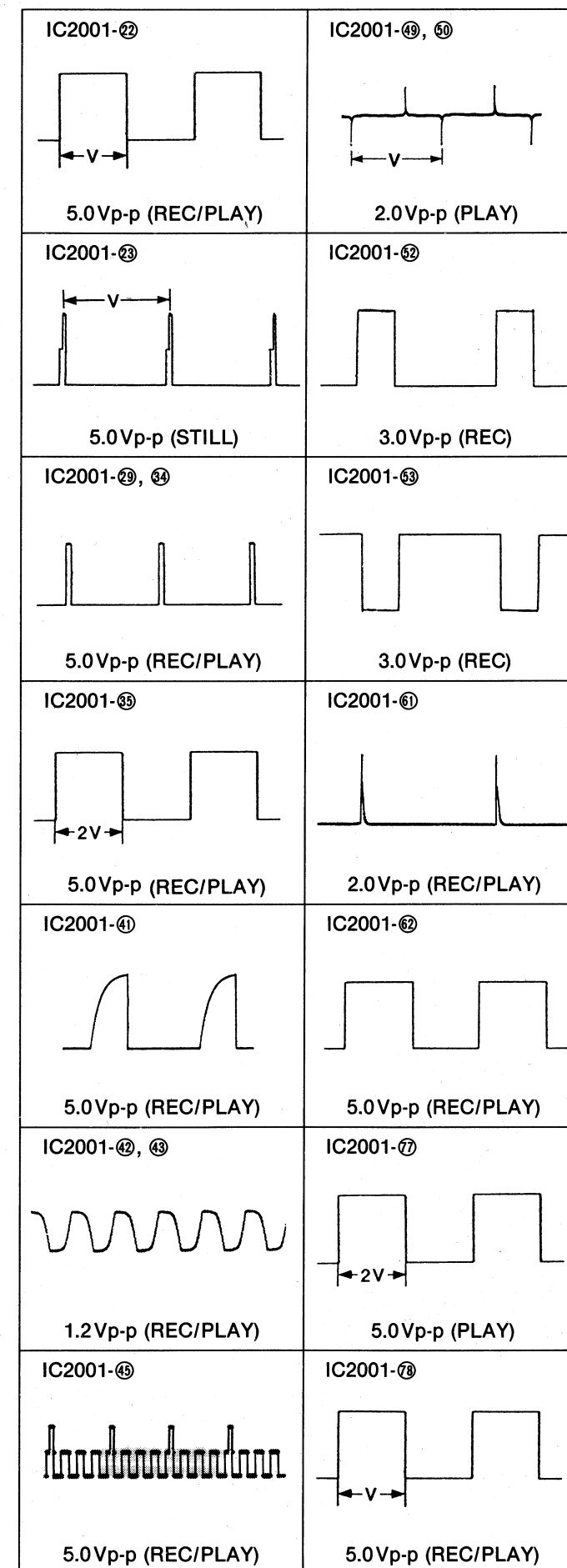


VO SPEED LOOP
VO PHASE LOOP

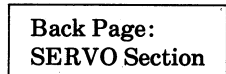
←■ CYLINDER SERVO SPEED LOOP
←□ CYLINDER SERVO PHASE LOOP

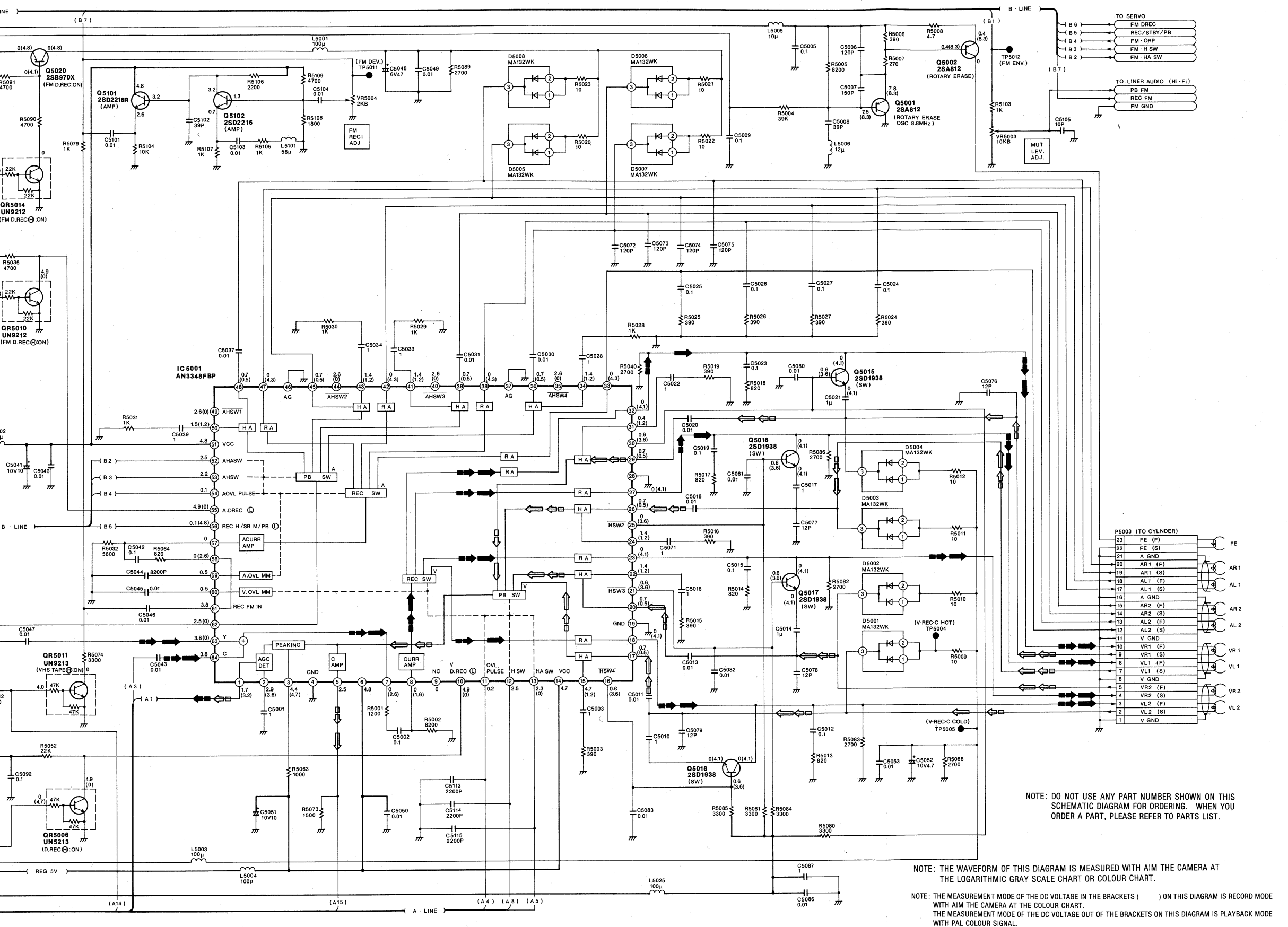


SERVO CIRCUIT WAVEFORM

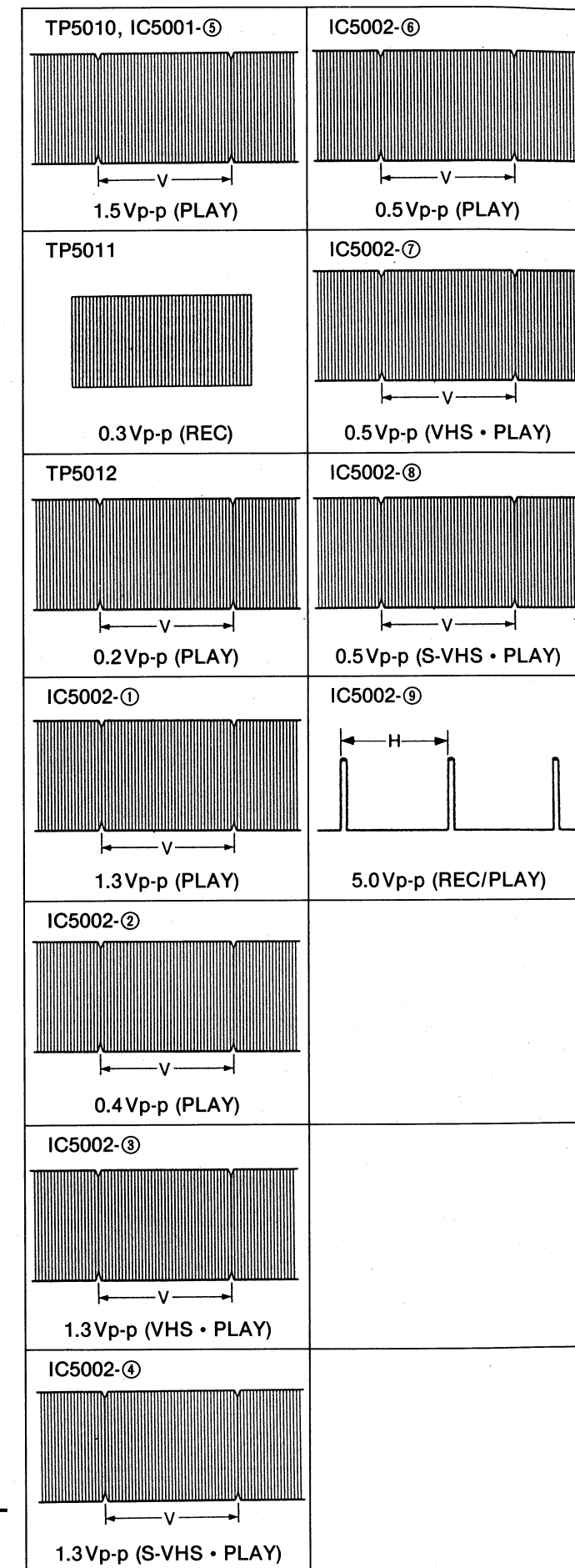


 MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)
 MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)



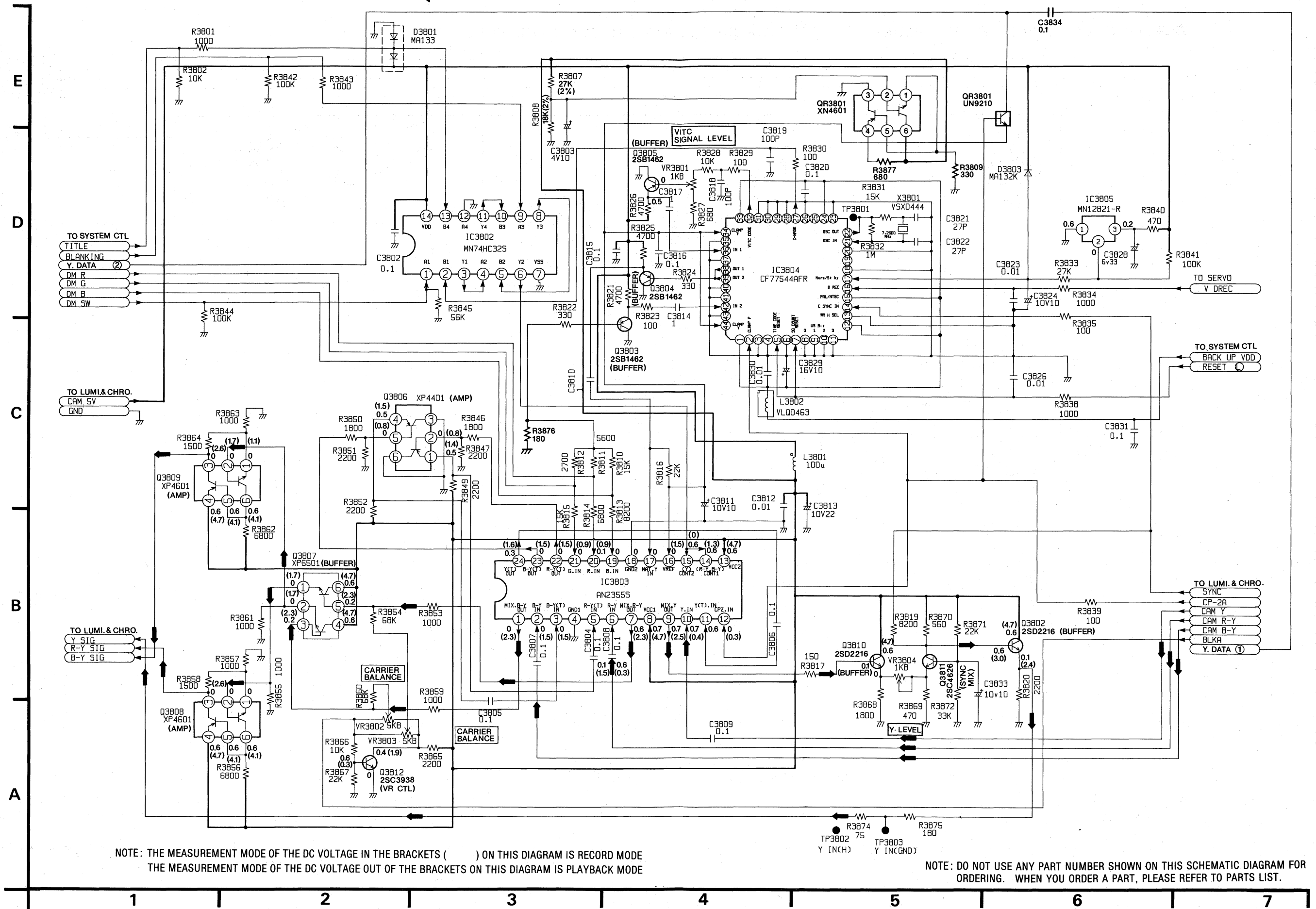


HEAD AMP CIRCUIT WAVEFORM



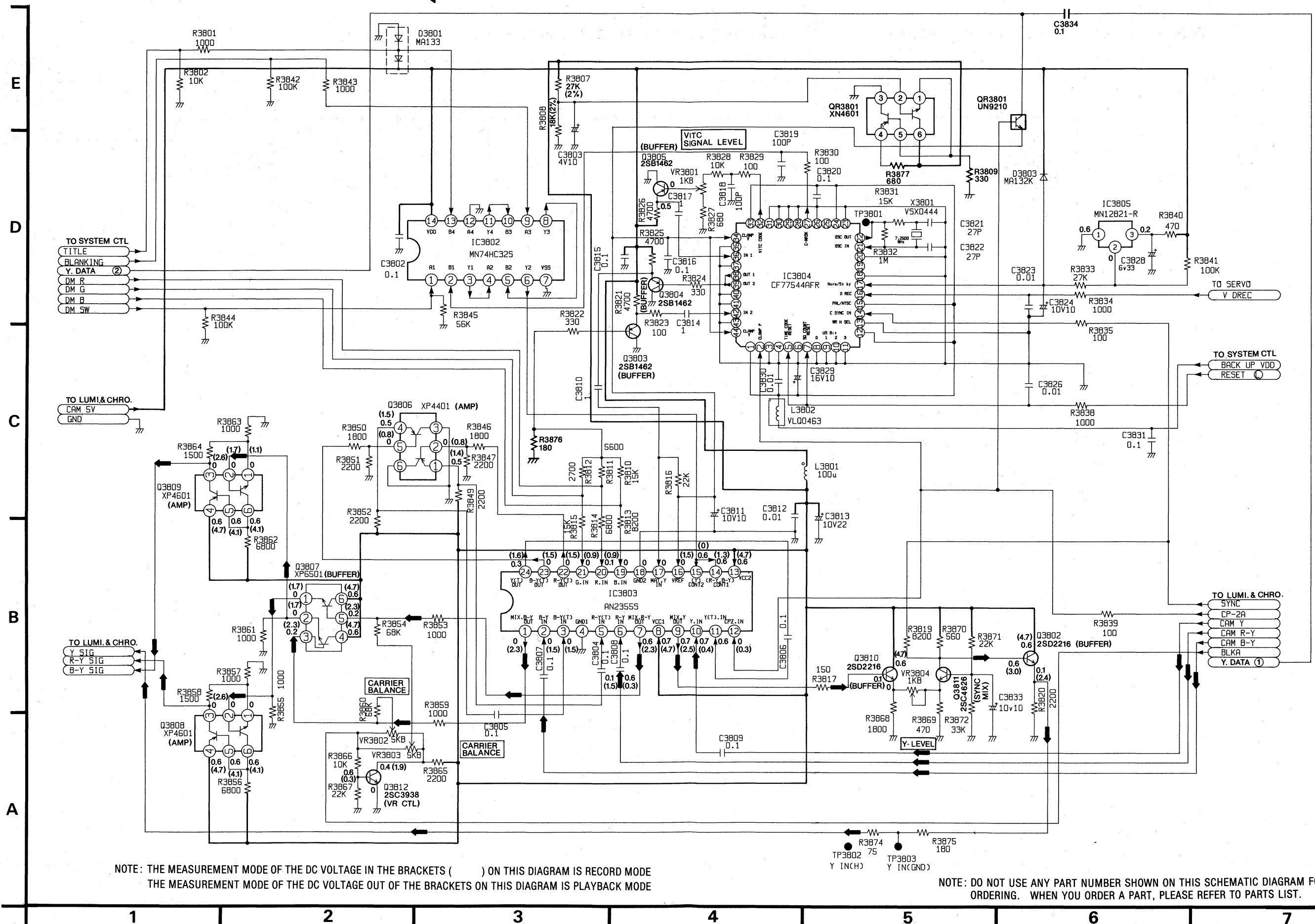
3-28. VITC SCHEMATIC DIAGRAM

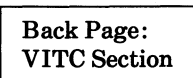
← MAIN SIGNAL PATH IN REC MODE



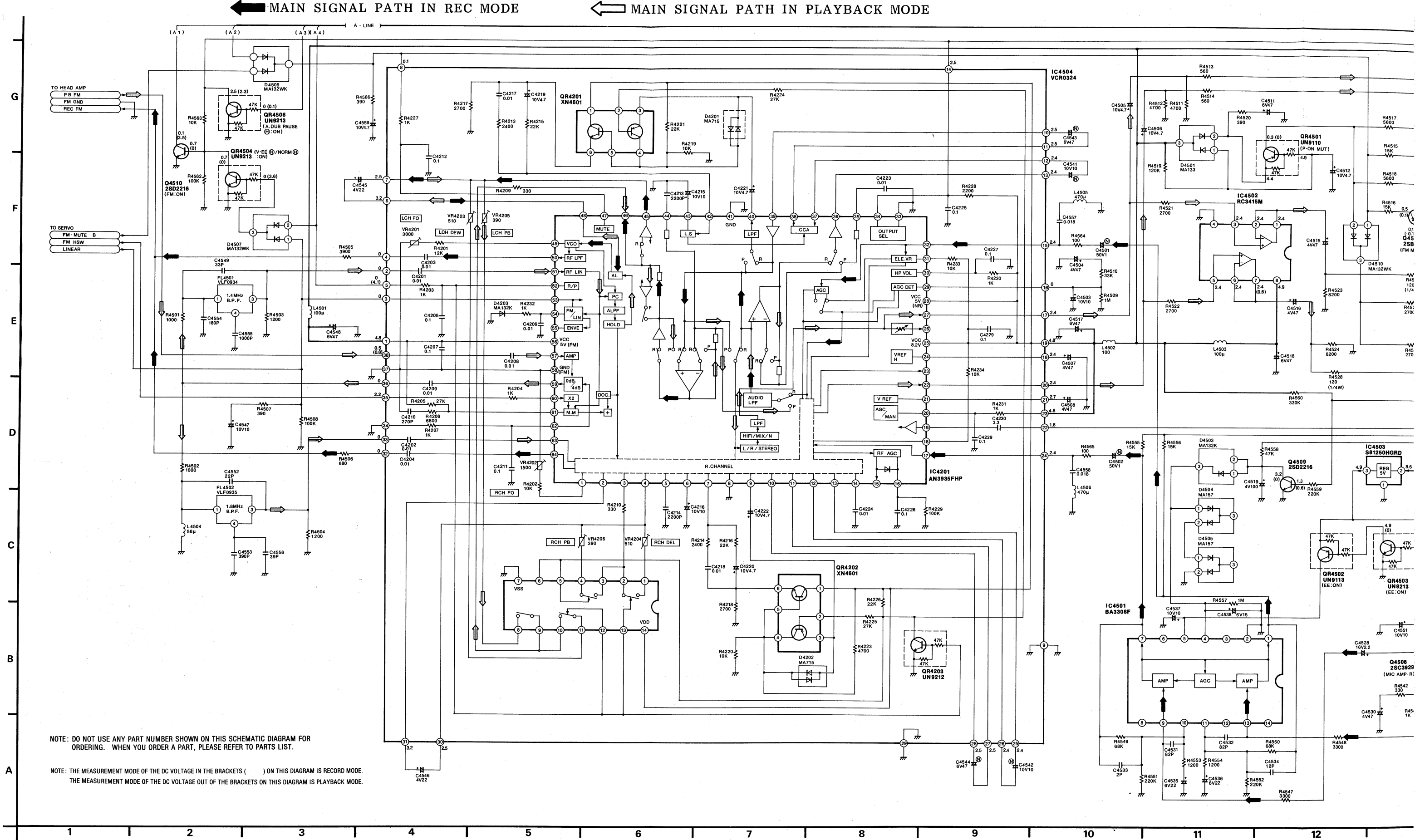
3-28. VITC SCHEMATIC DIAGRAM

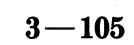
MAIN SIGNAL PATH IN REC MODE



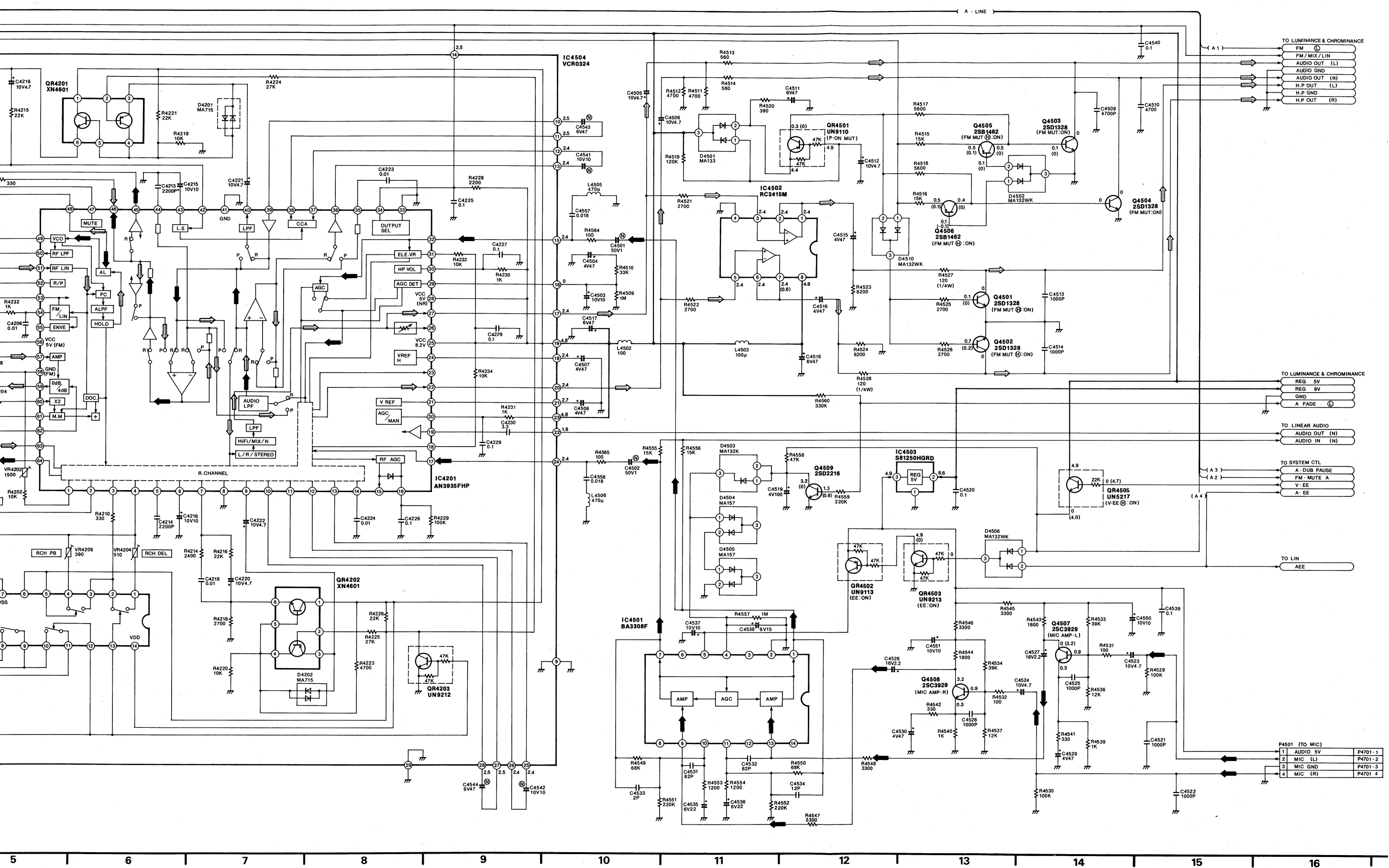


3-30. Hi-Fi AUDIO SCHEMATIC DIAGRAM

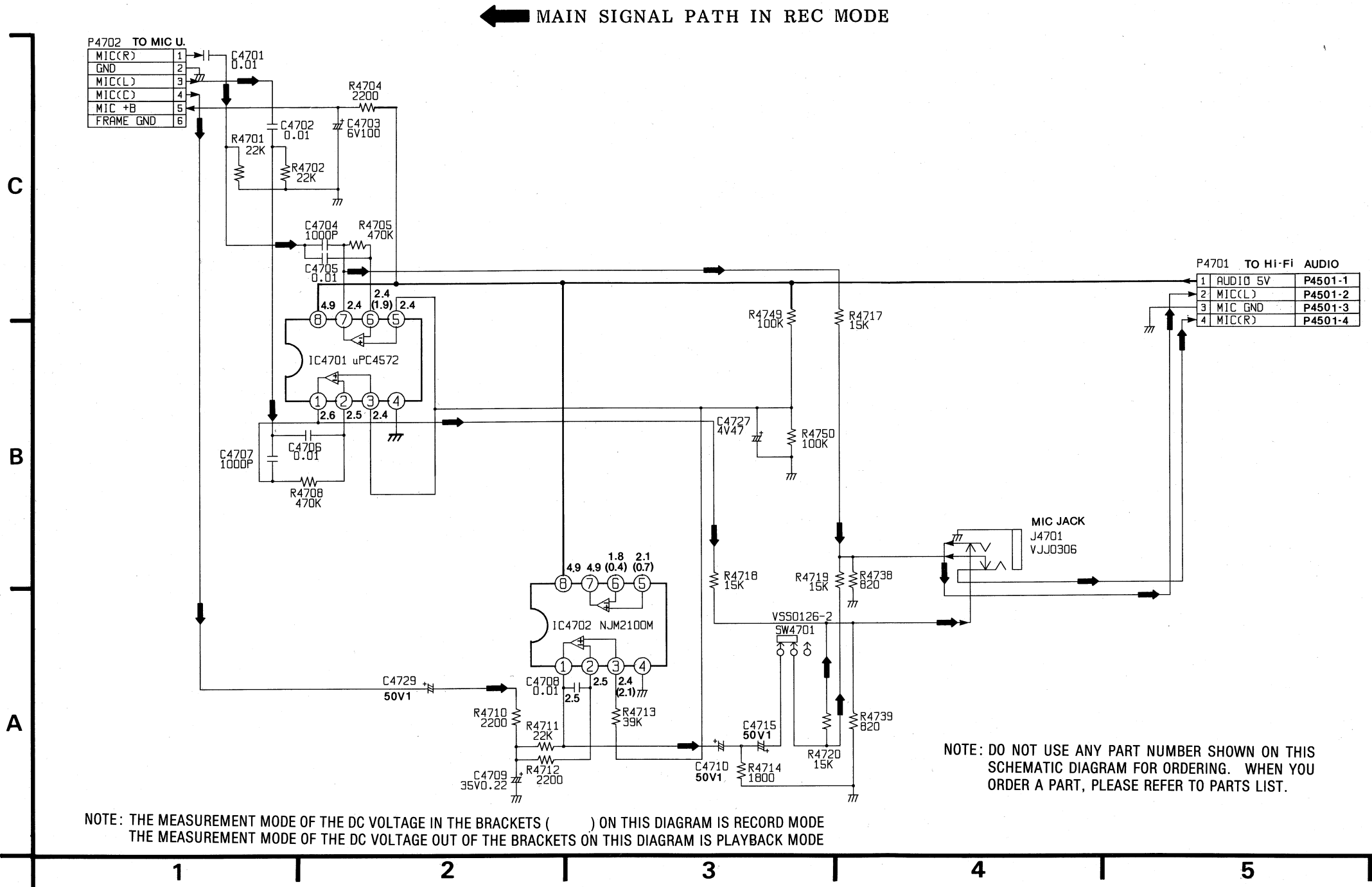




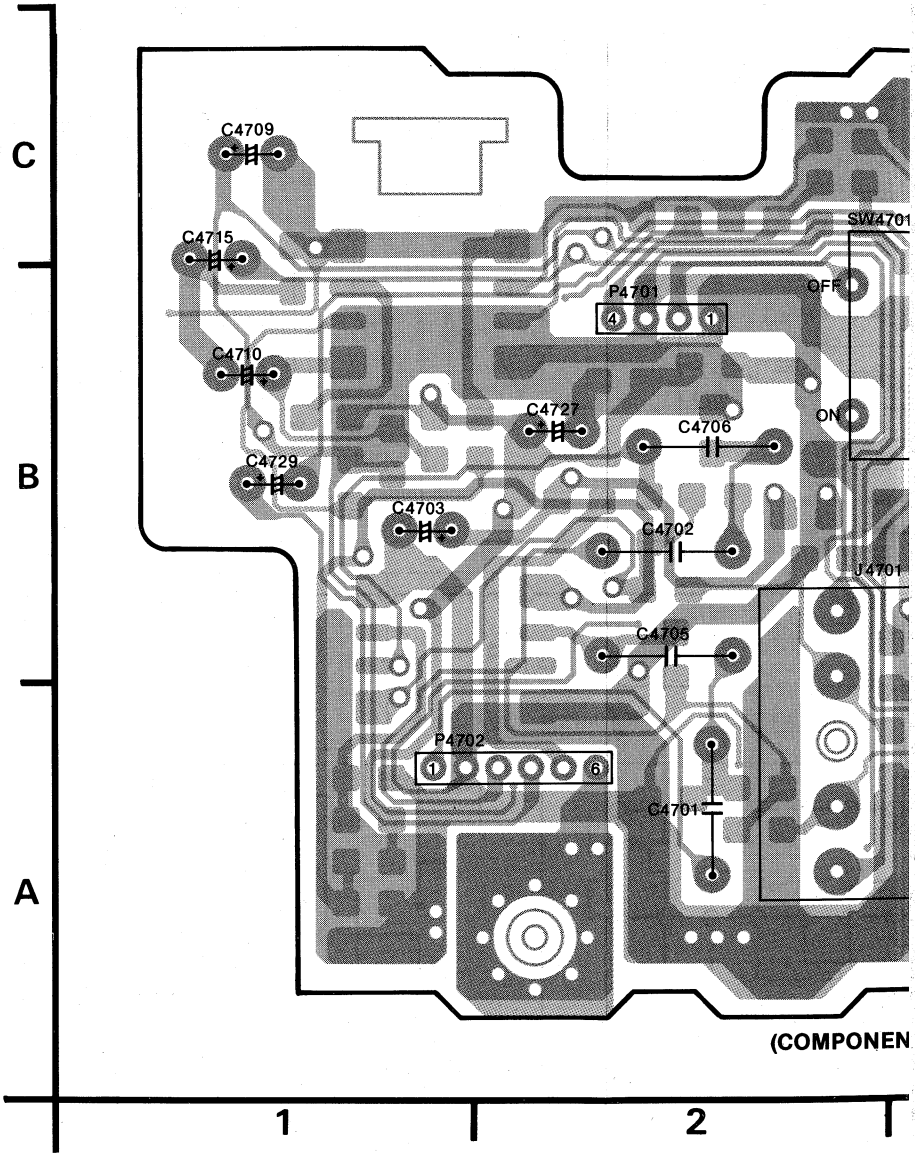
← MAIN SIGNAL PATH IN PLAYBACK MODE



3-31. MIC SCHEMATIC DIAGRAM

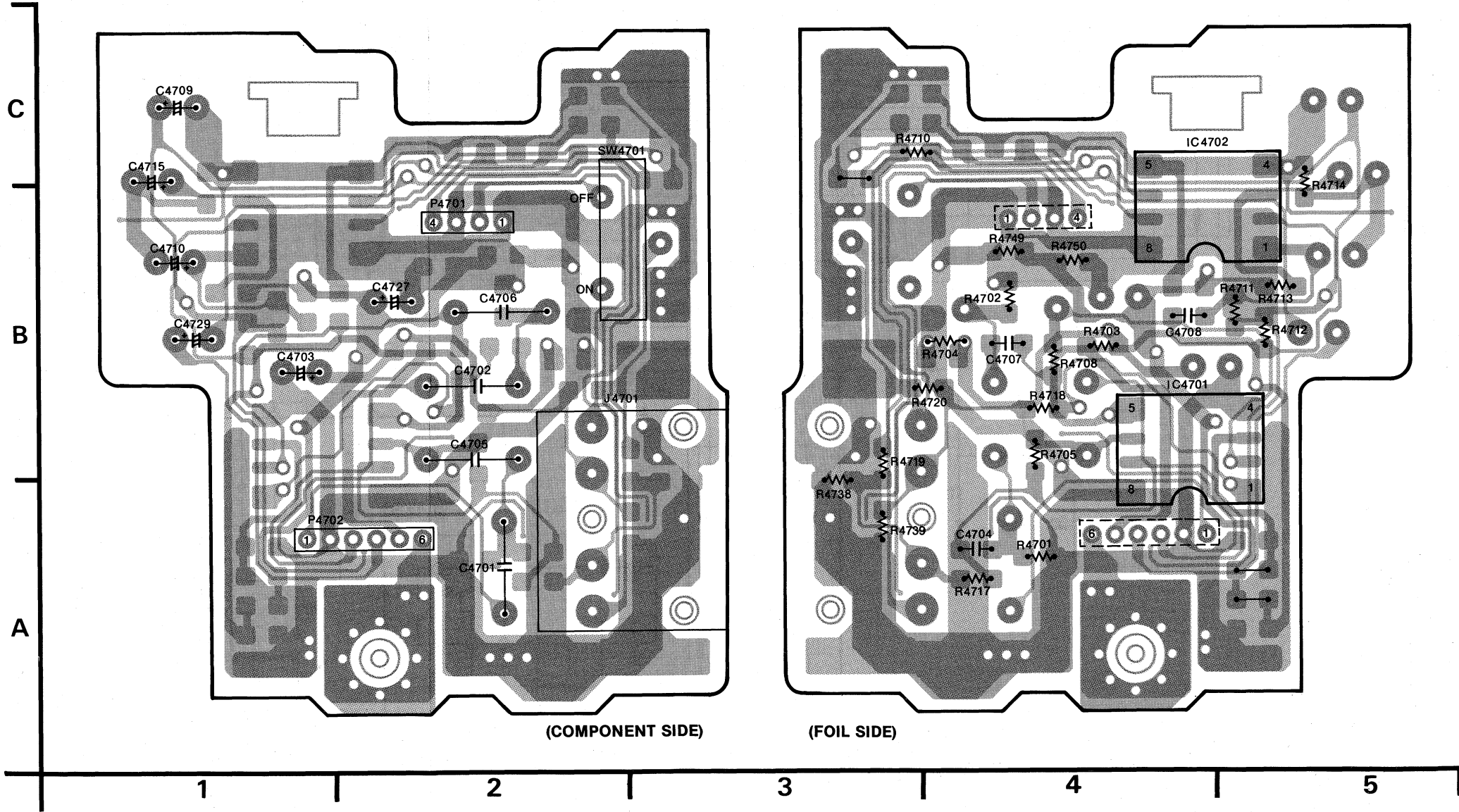
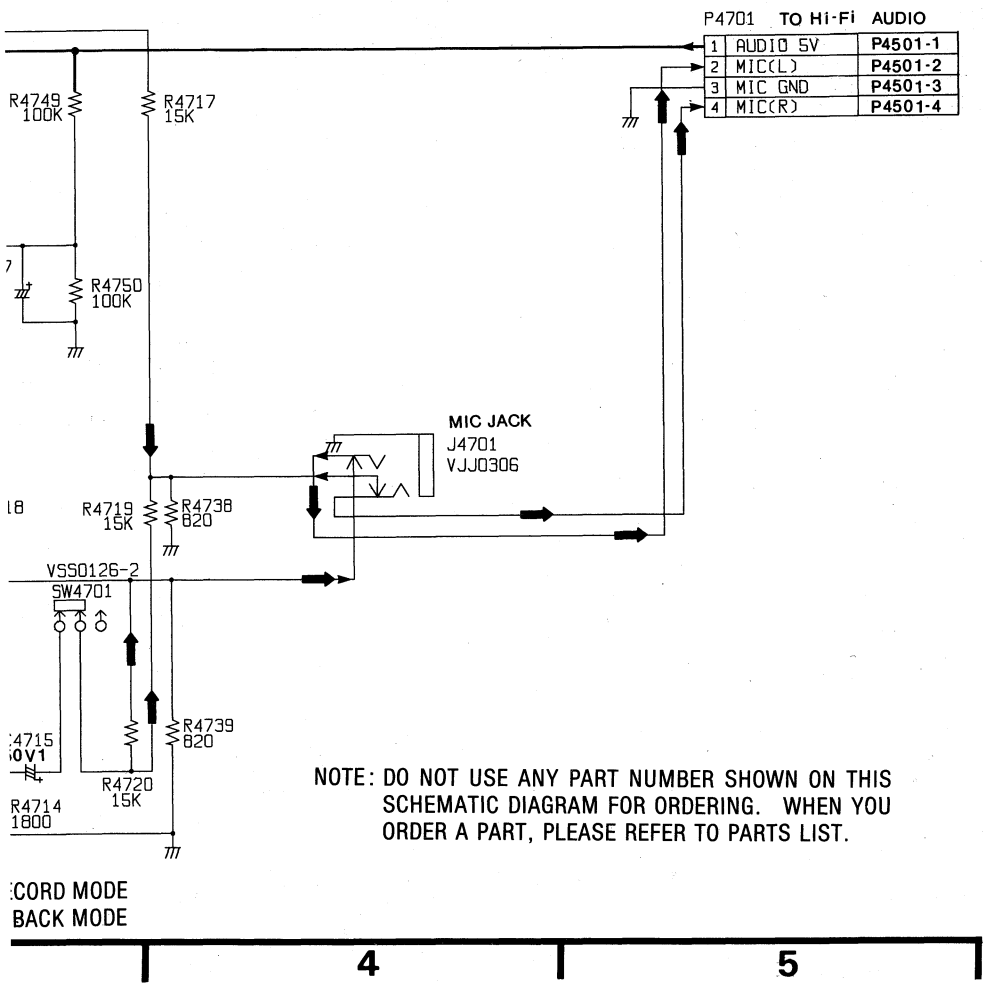


3-32. MIC C.B.A. (VEP04324A)

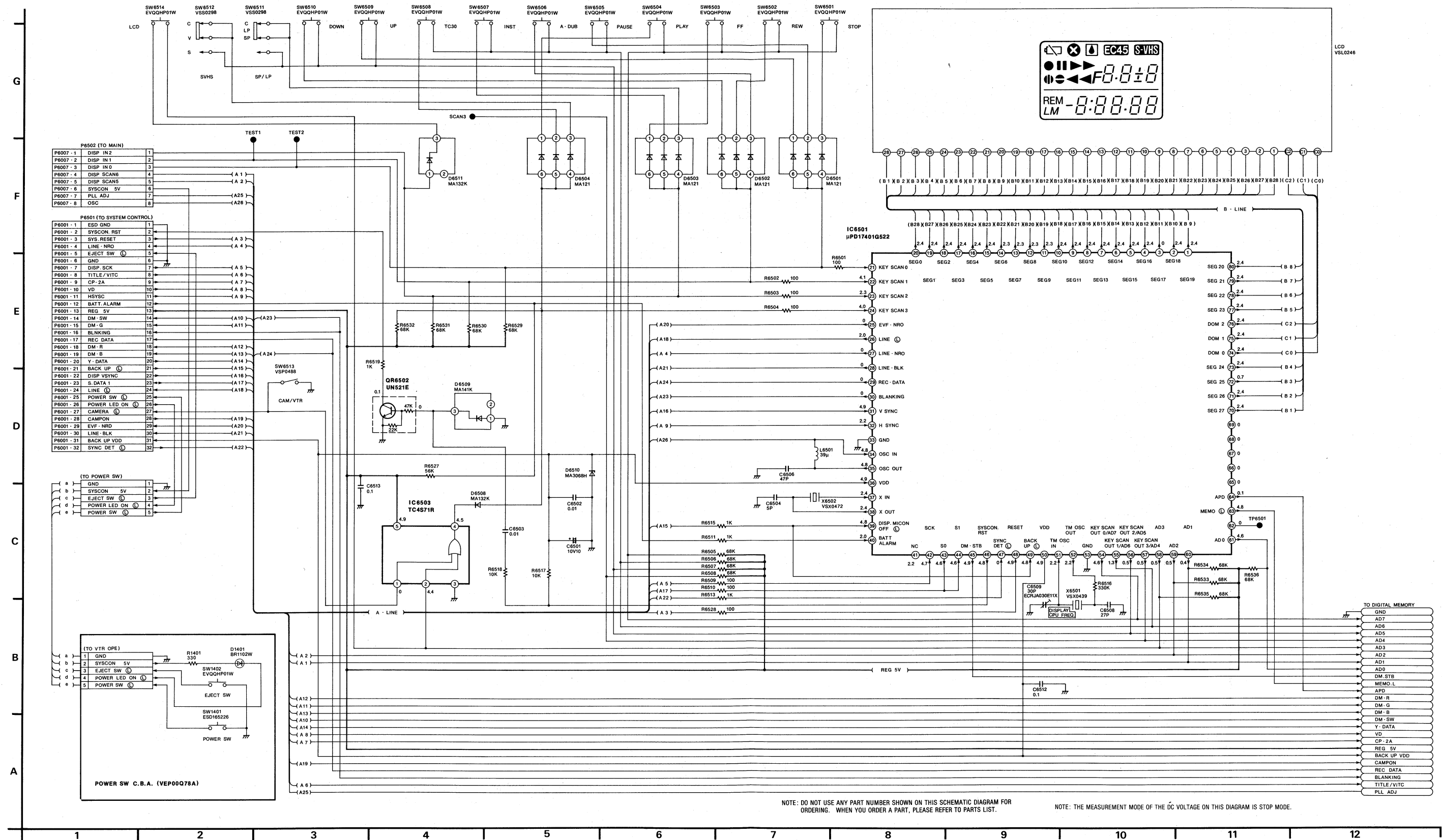


3-32. MIC C.B.A. (VEP04324A)

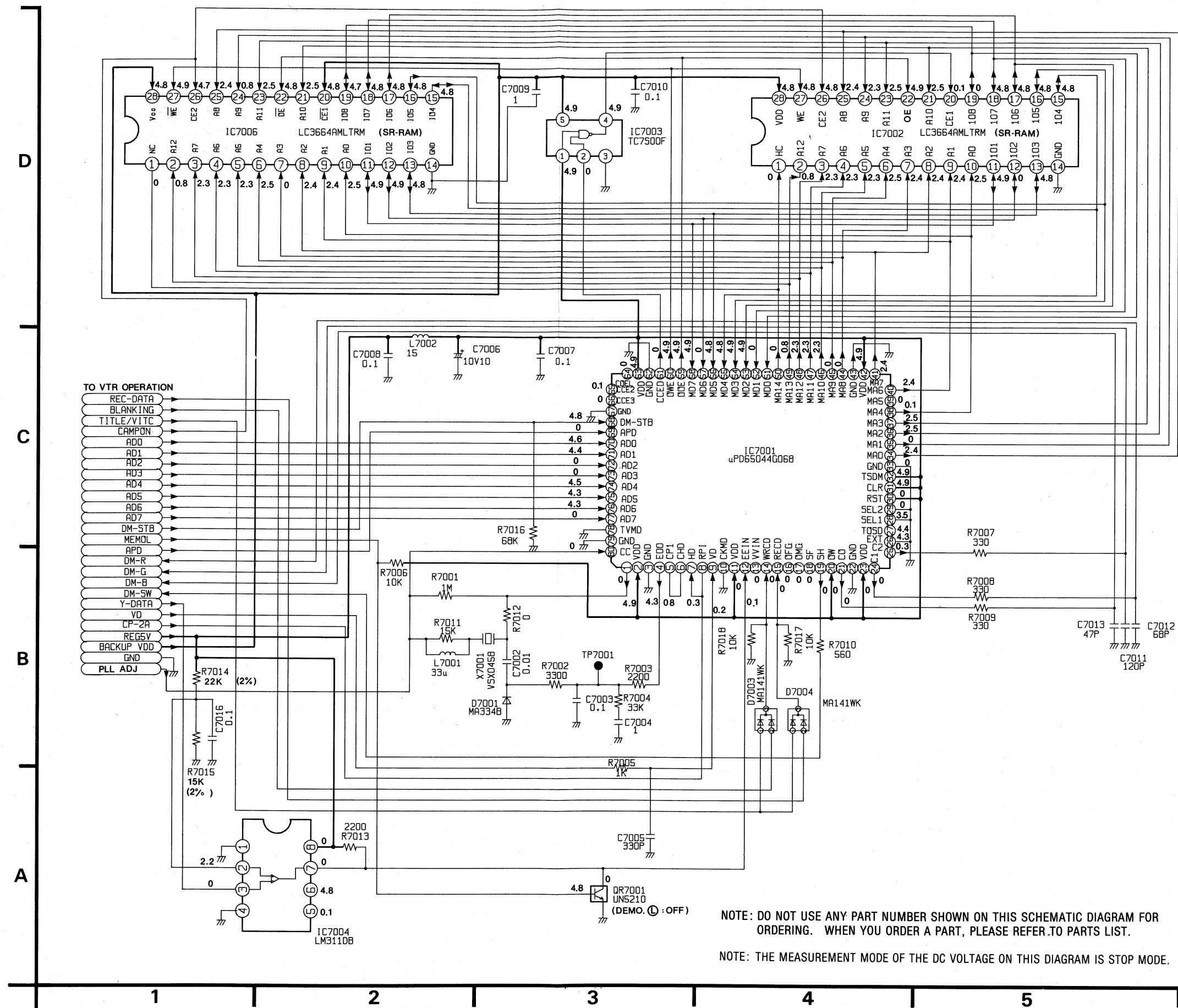
IN REC MODE



3-33. VTR OPERATION SCHEMATIC DIAGRAM



3-34. DIGITAL MEMORY SCHEMATIC DIAGRAM

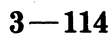


VTR OPERATION Section		
Transistor & Resistor		
QR6502	C-2	Ⓒ
Integrated Circuit		
IC6501	B-2	Ⓒ
IC6503	B-8	Ⓕ
Test Point		
TP6501	C-11	Ⓕ
Adjustment		
C6509	B-12	Ⓕ
Connector		
C6501	A-8	Ⓕ
C6502	A-8	Ⓕ

DIGITAL MEI
Transistor &
QR7001
Integrated Ci
IC7001
IC7002
IC7003
IC7004
IC7006
Test Point
TP7001

ADDRESS INFO
 © ... COMPONE
 Ⓢ ... FOIL SIDE

ADDRESS INFO
©...COMPONENT
®...FOIL SIDE

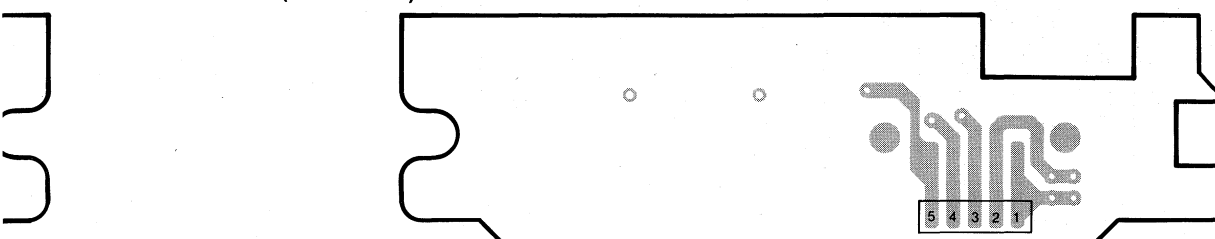


DIGITAL MEMORY Section		
Transistor & Resistor		
QR7001	B-7	Ⓢ
Integrated Circuit		
IC7001	B-11	Ⓢ
IC7002	B-10	Ⓢ
IC7003	A-10	Ⓢ
IC7004	C-7	Ⓢ
IC7006	B-9	Ⓢ
Test Point		
TP7001	A-12	Ⓢ

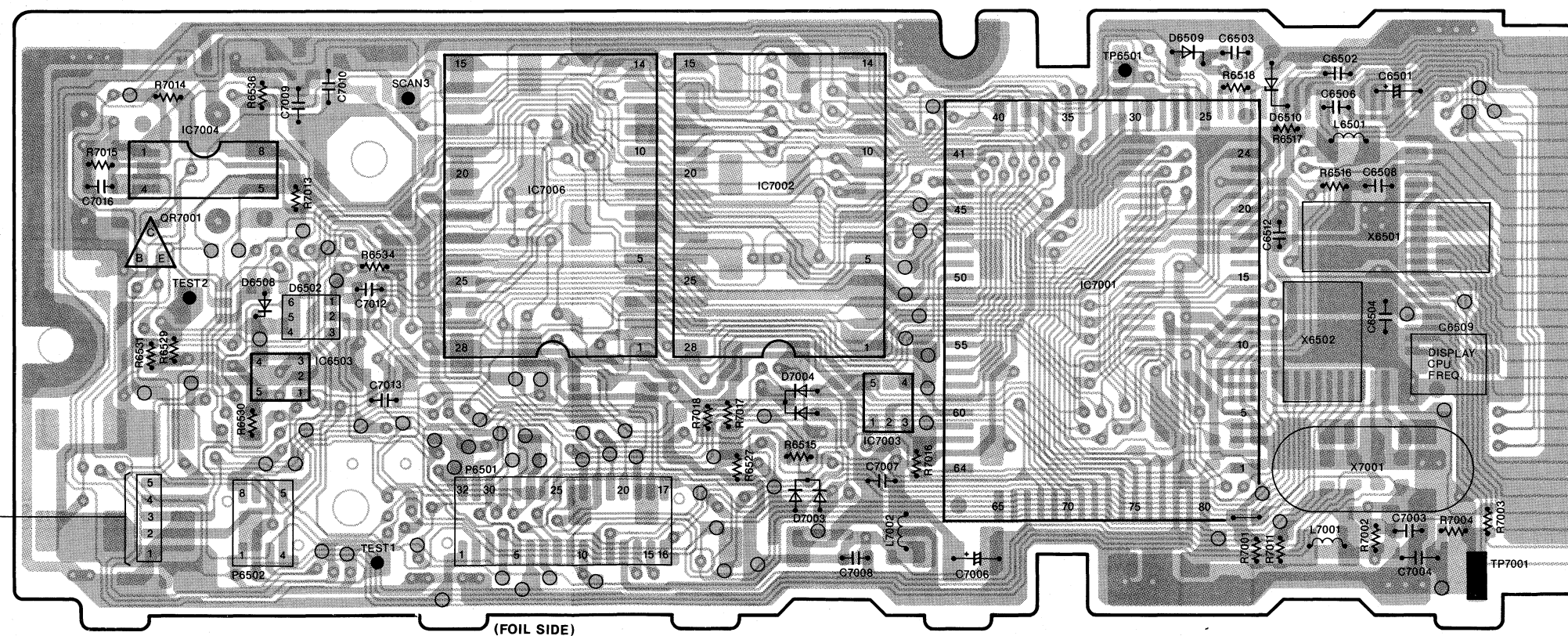
ADDRESS INFORMATION
 (C)... COMPONENT SIDE
 (F)... FOIL SIDE

ADDRESS INFORMATION
 ©...COMPONENT SIDE
 ®...FOIL SIDE

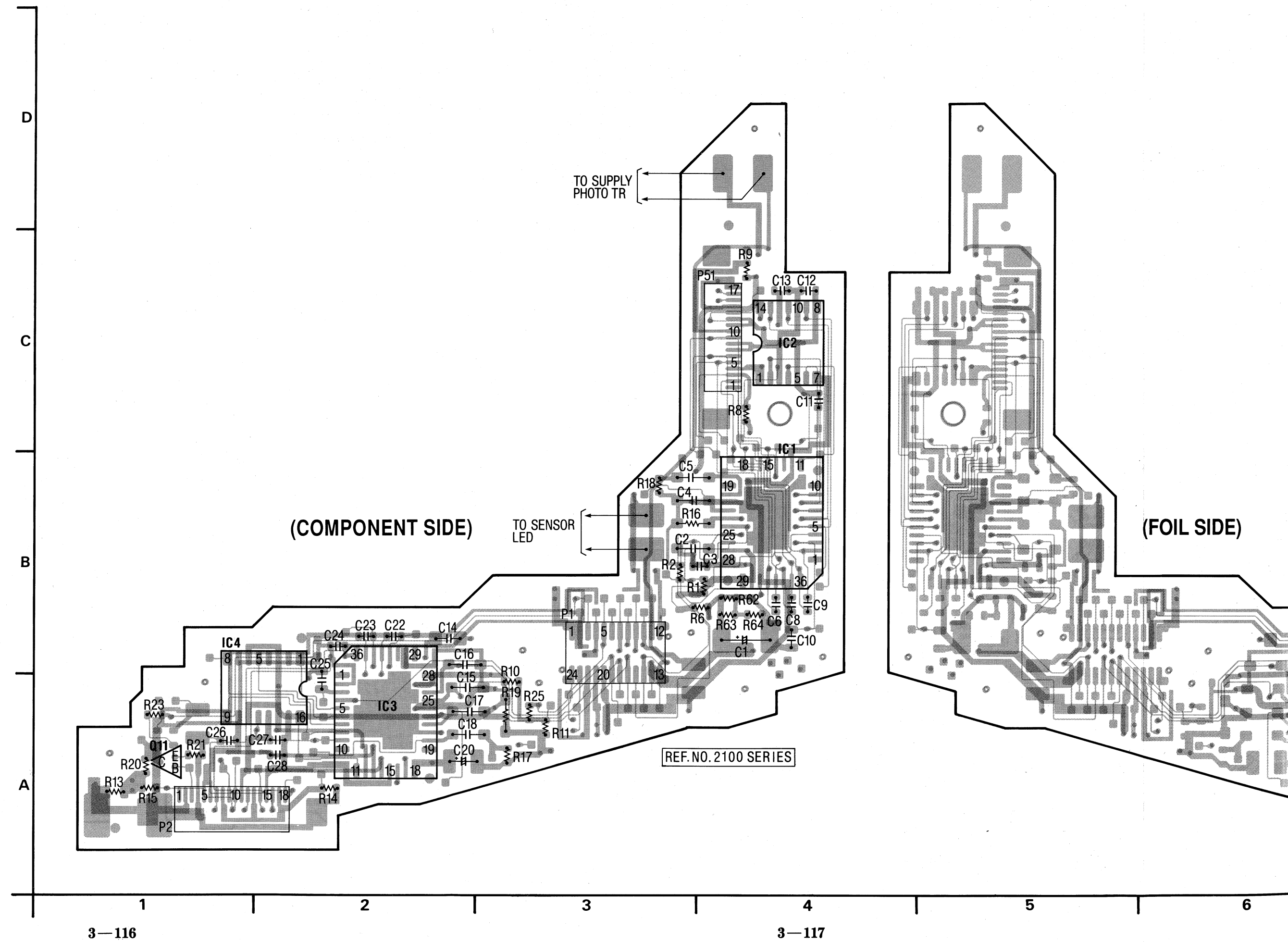
(FOIL SIDE)

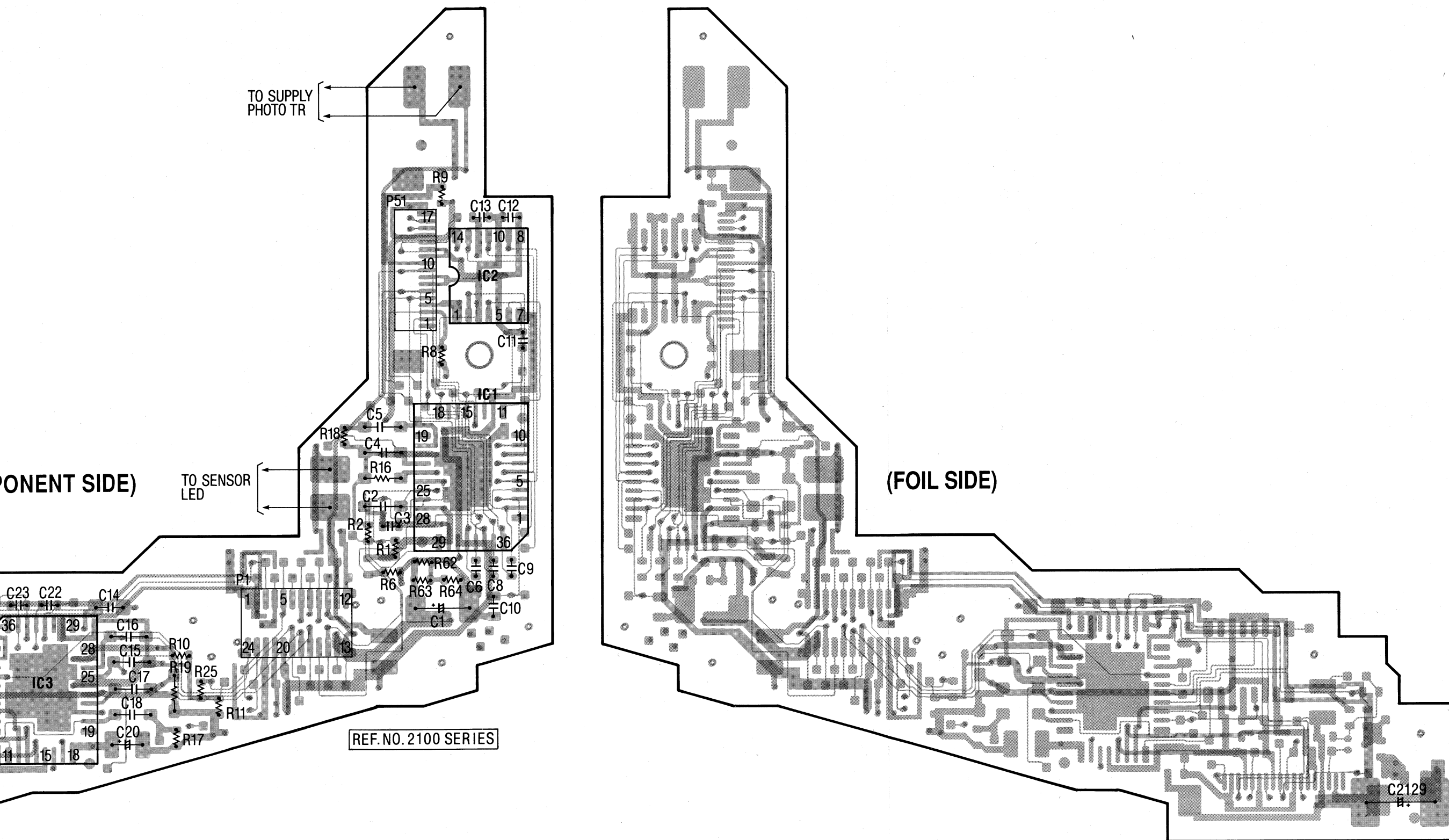


(COMPONENT SIDE)

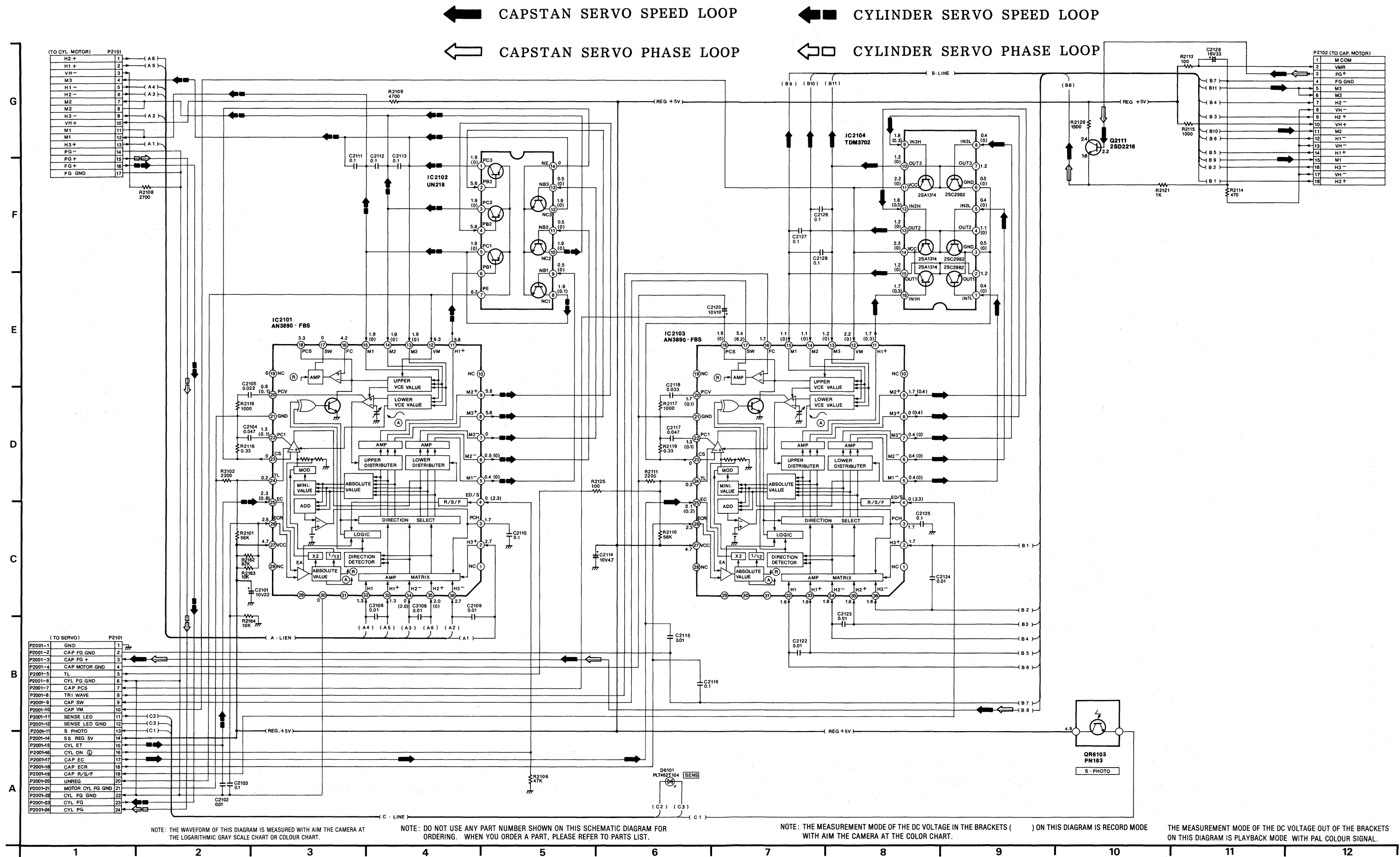


(FOIL SIDE)

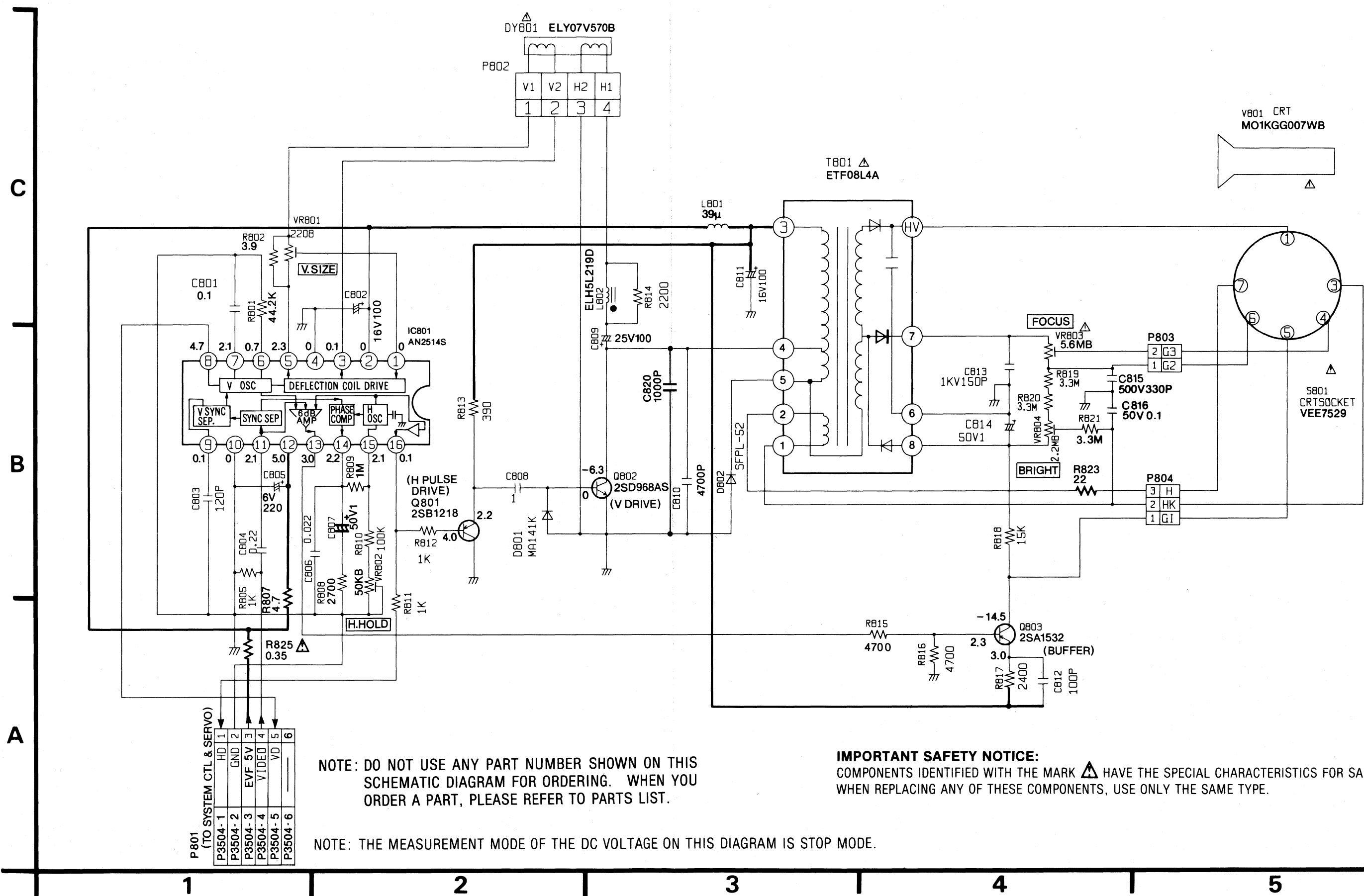




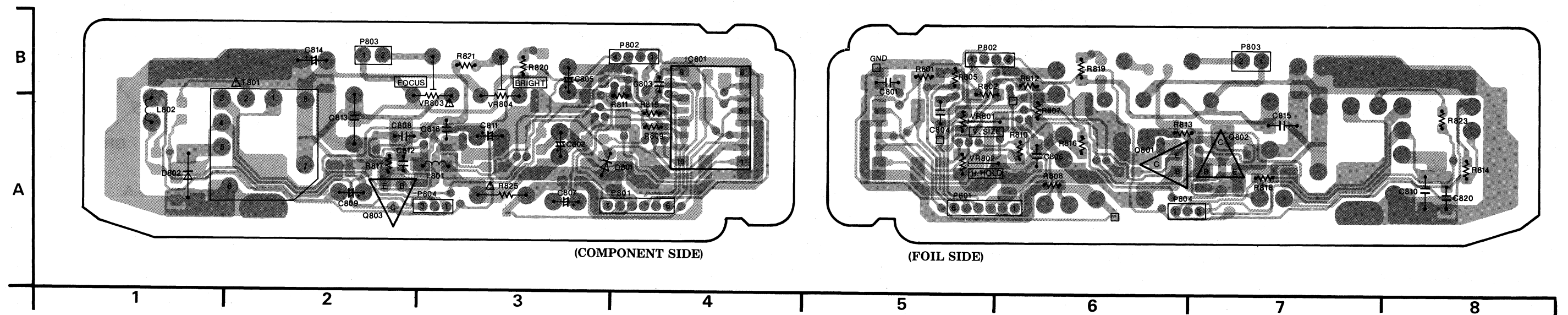
3-37. DRIVE SCHEMATIC DIAGRAM



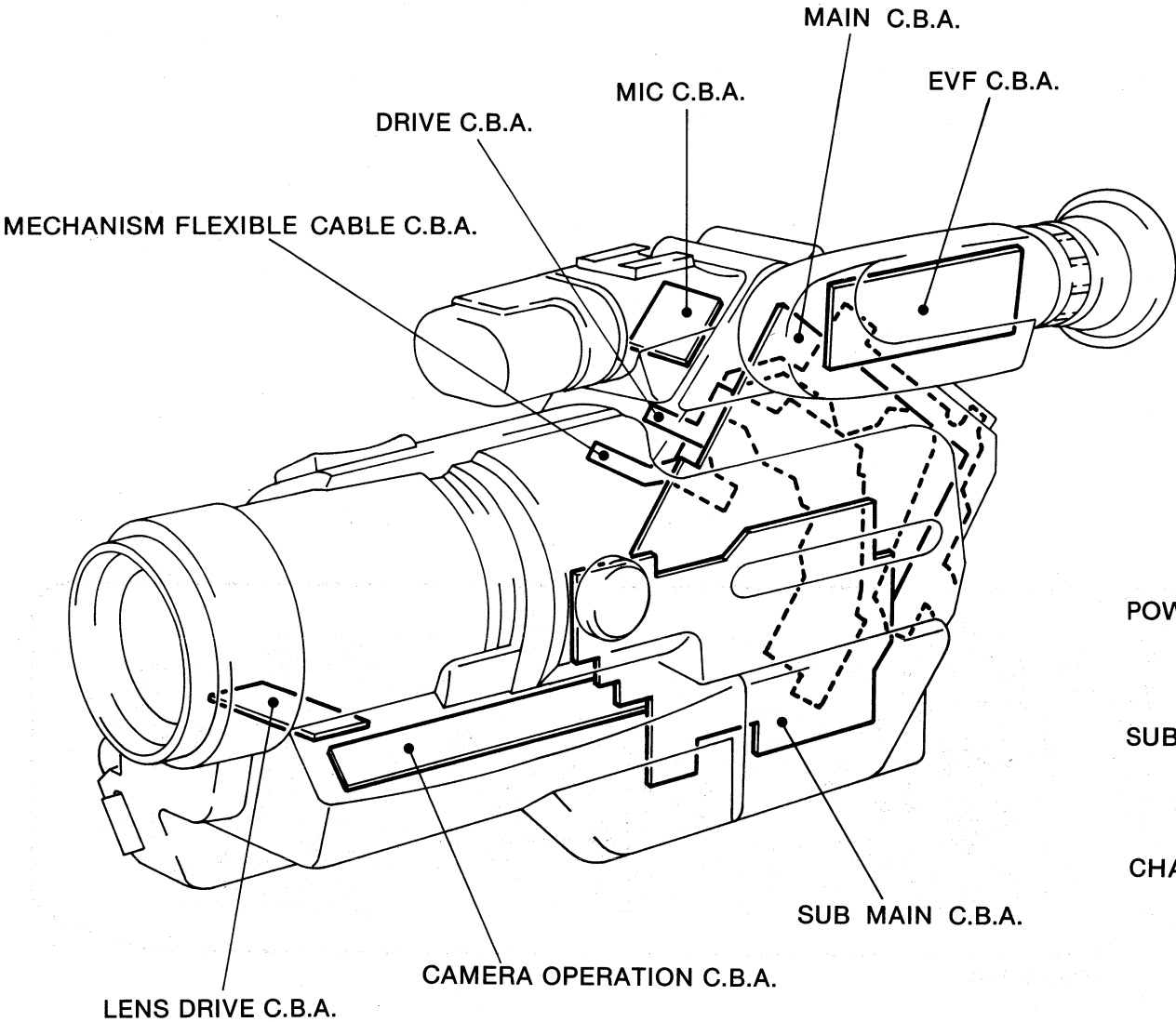
3-38. EVF SCHEMATIC DIAGRAM



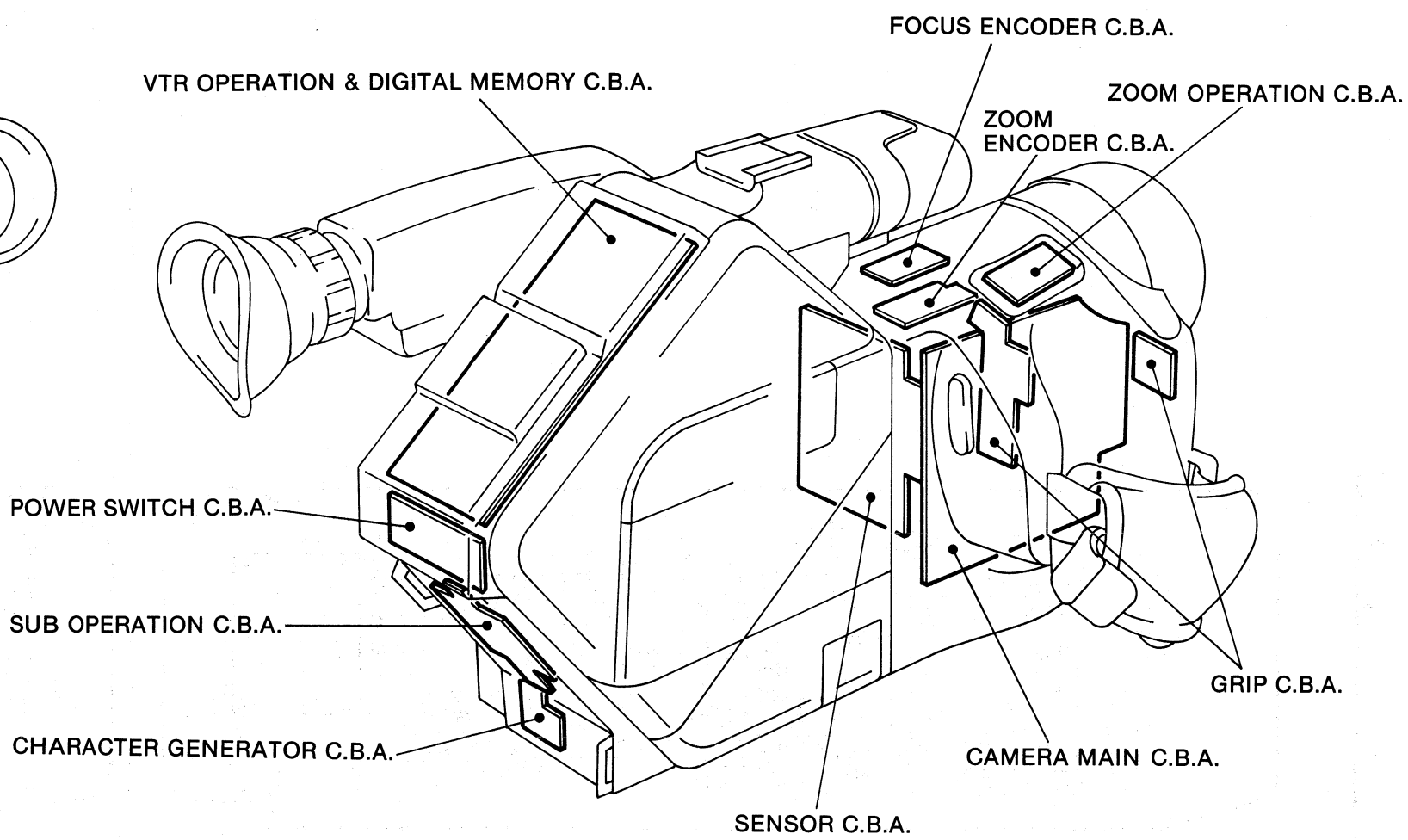
3-39. EVF C.B.A. (VEP28039A)



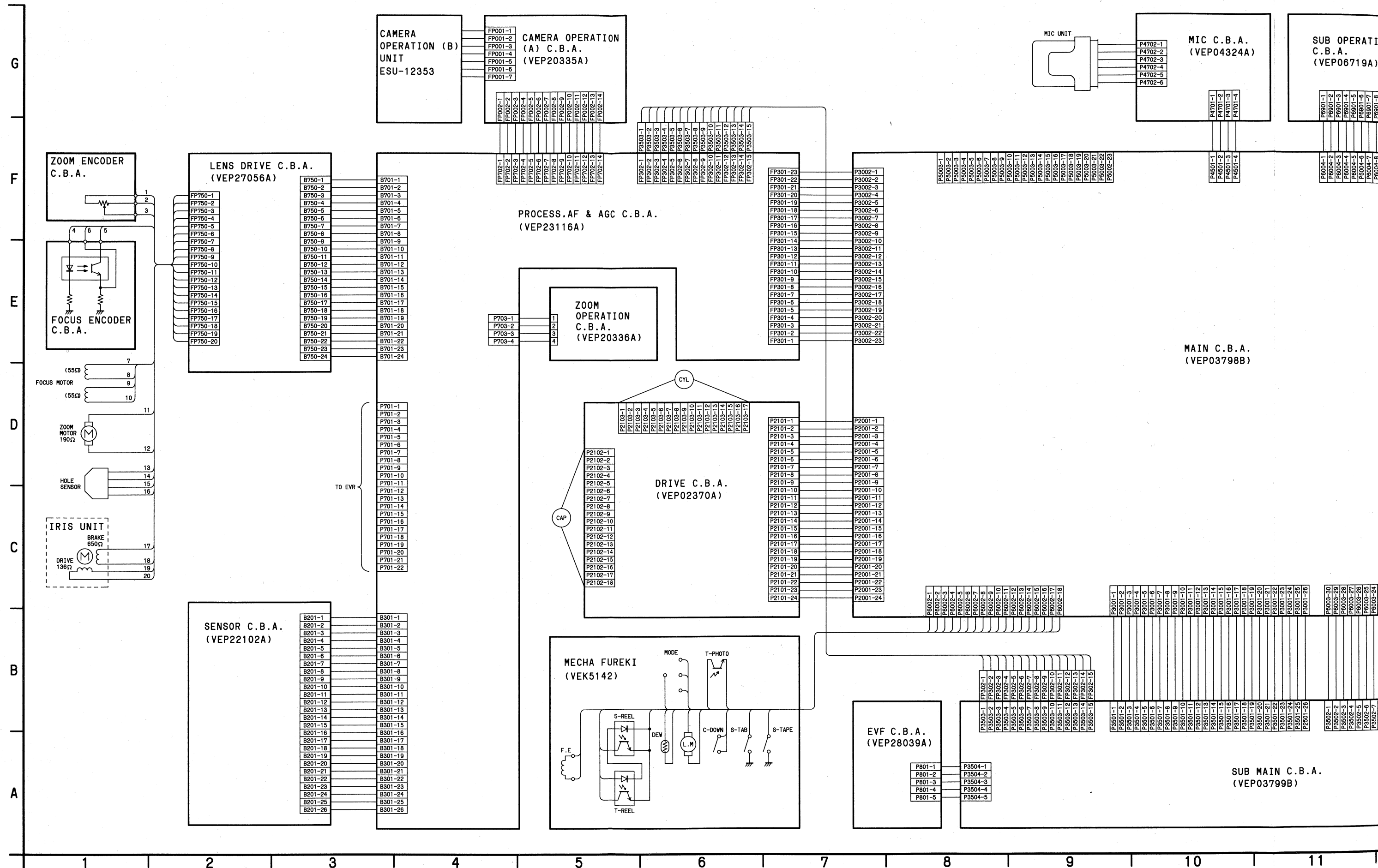
3-40. CIRCUIT BOARD LAYOUT

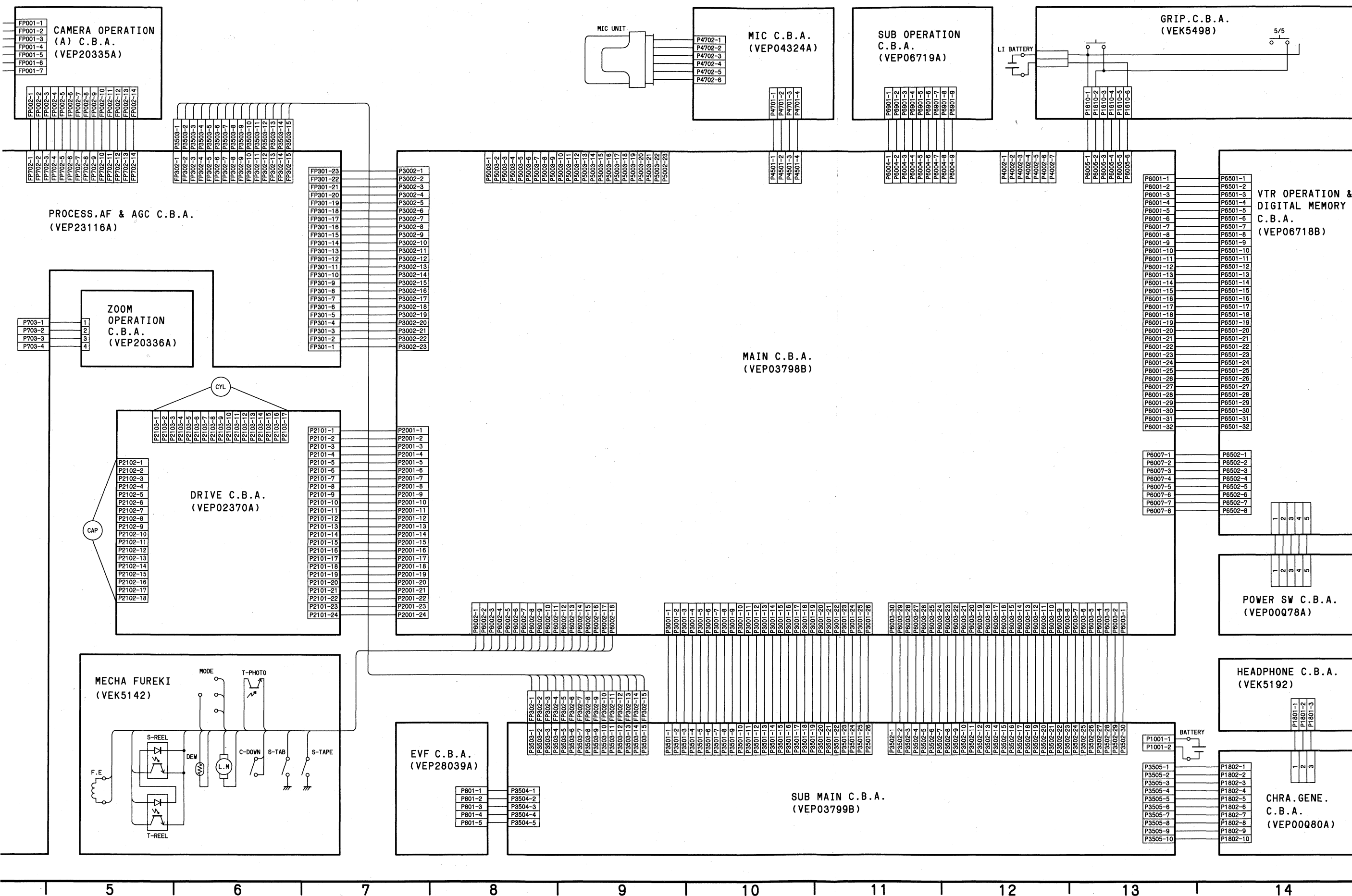


Back Page:
EVF Section



3-41. INTERCONNECTION SCHEMATIC DIAGRAM

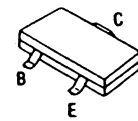




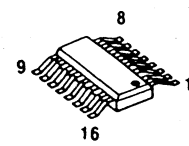
3-42. ICs & TRs INFORMATION



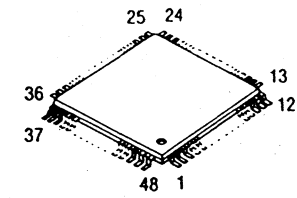
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AN3396S
TC7W04FTE12L
TC4W53FTE12L
LM358DB
LM393DB
LM311DB
TL8809FEL
μPC4572G2
RC2100M
NJM2235MA
MN6707PAS
S8420BFT1
μPC393G2



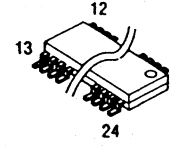
2SA1532
2SB970X
2SB1218
2SB1219
2SD968A
2SD1328
2SD2216
2SC4627
2SD1819
2SB1220



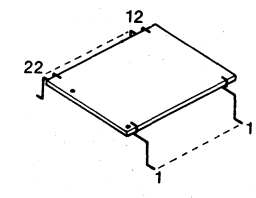
AN2012SB
AN2514S
AN3580SB
M52055FP
MN4053BS
AN3497SB



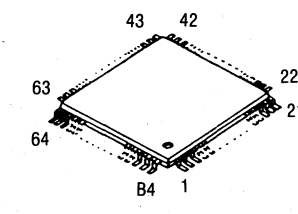
M65701FHP



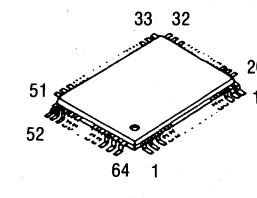
CXD1175AM
BA9702FS
AN2355S
BA7752FS



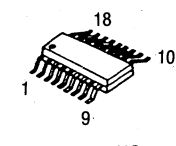
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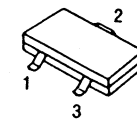
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MN73039VSMS
MN5145FHP
μPD75108A584
MN67803VSTJ
MN1882410V0X



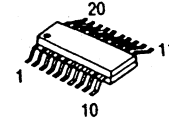
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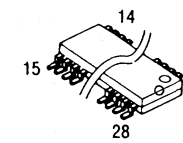
AN3292NS



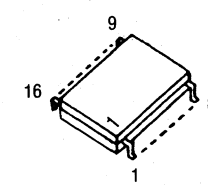
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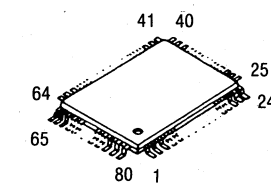
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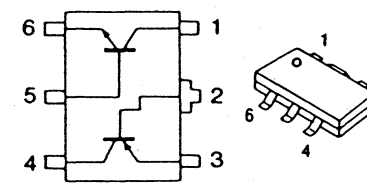
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LC3664AMLTRM



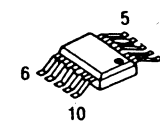
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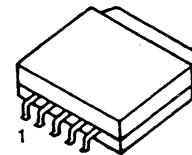
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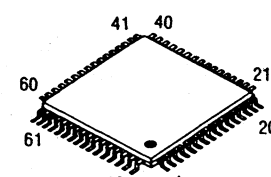
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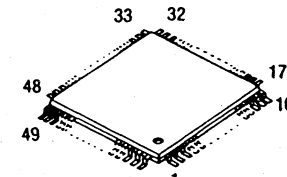
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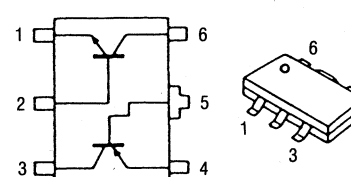
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AN6663SP



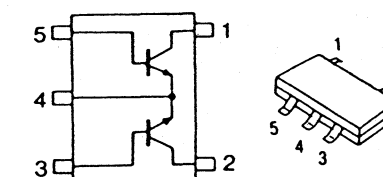
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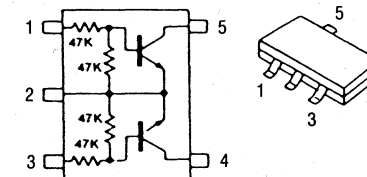
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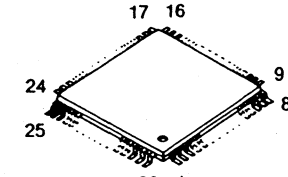
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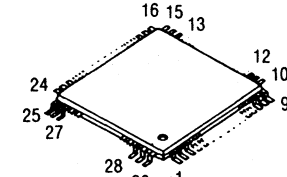
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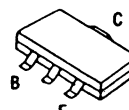
XP1213



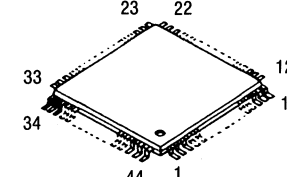
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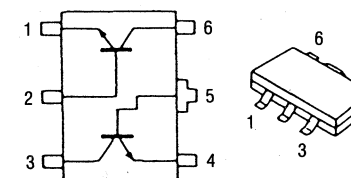
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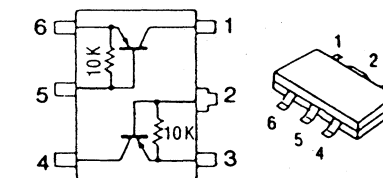
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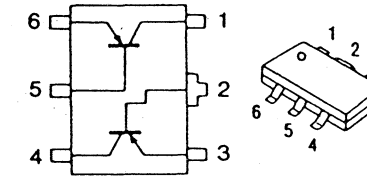
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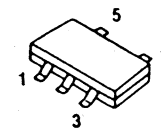
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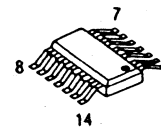
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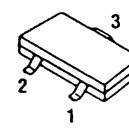
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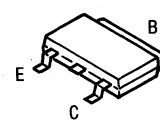
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TC4S66FT85R
TC7S04FT85R
TC4S71FT85R
TC7S00FT85R



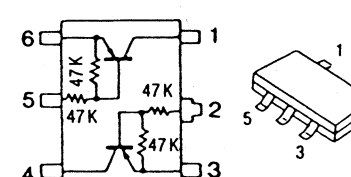
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MN74HC02S
BA3308F
MN74HC32S



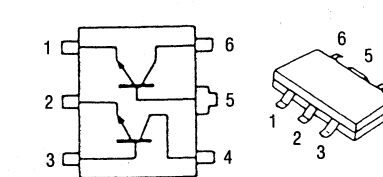
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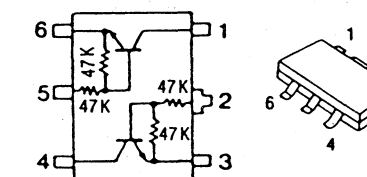
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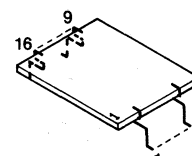
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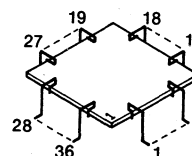
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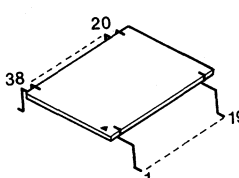
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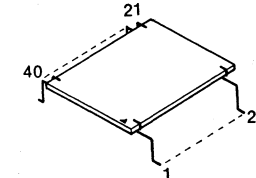
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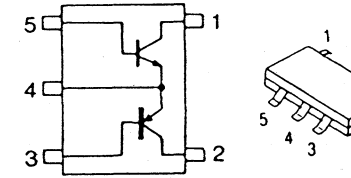
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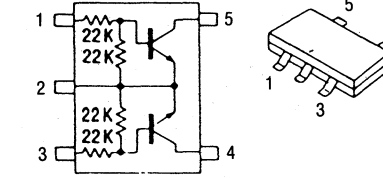
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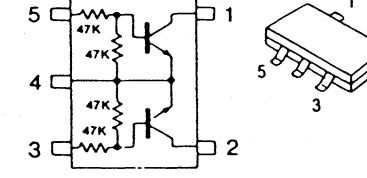
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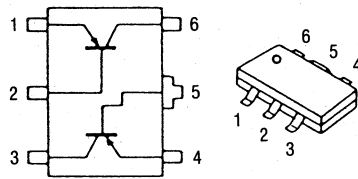
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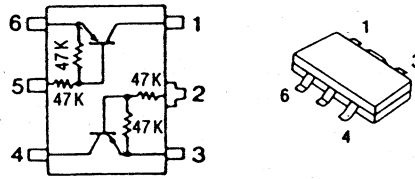
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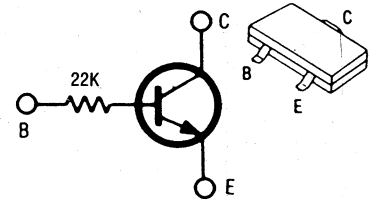
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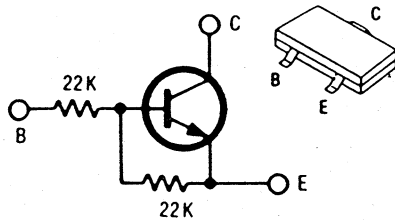
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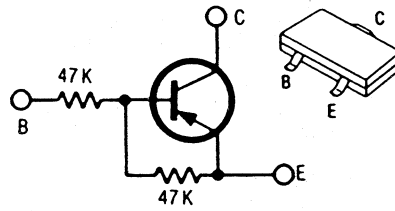
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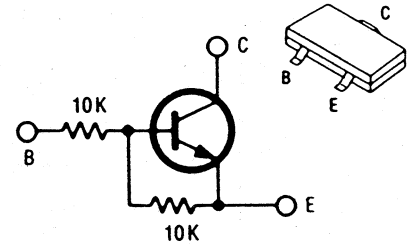
UN5217



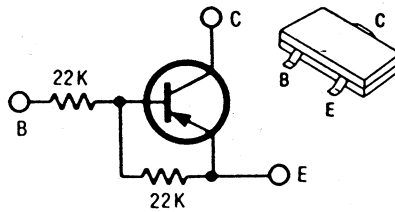
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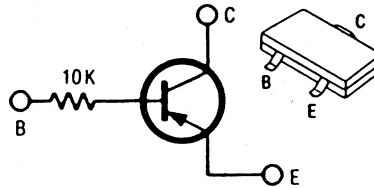
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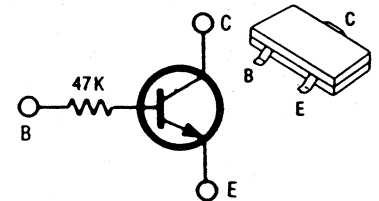
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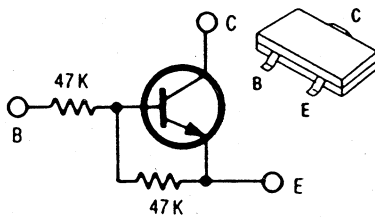
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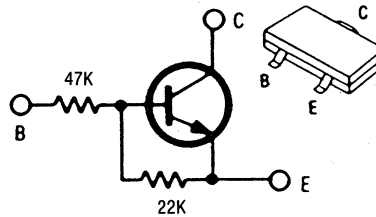
UN9115
UN5115



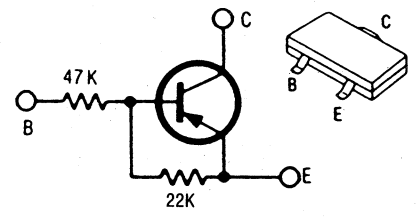
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UN9210



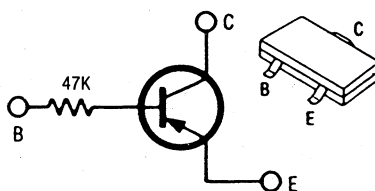
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UN5213



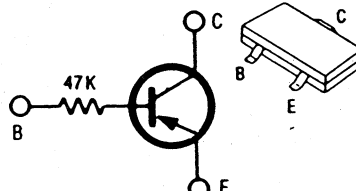
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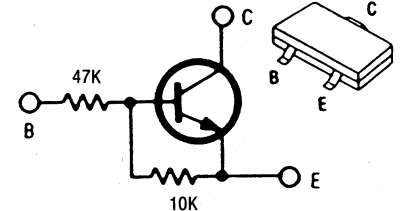
UN511F



UN9110



UN9110



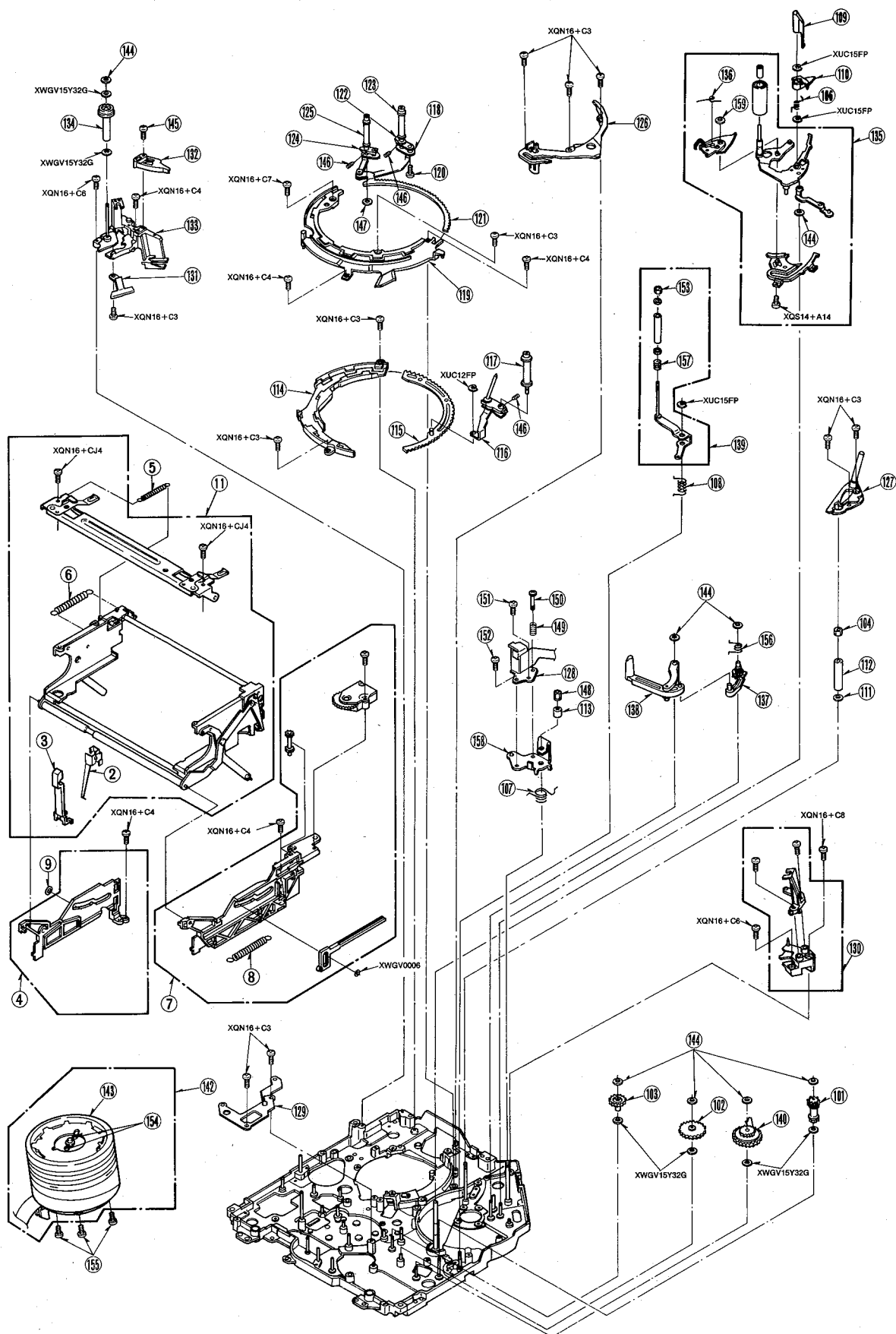
UN511D

SECTION 4

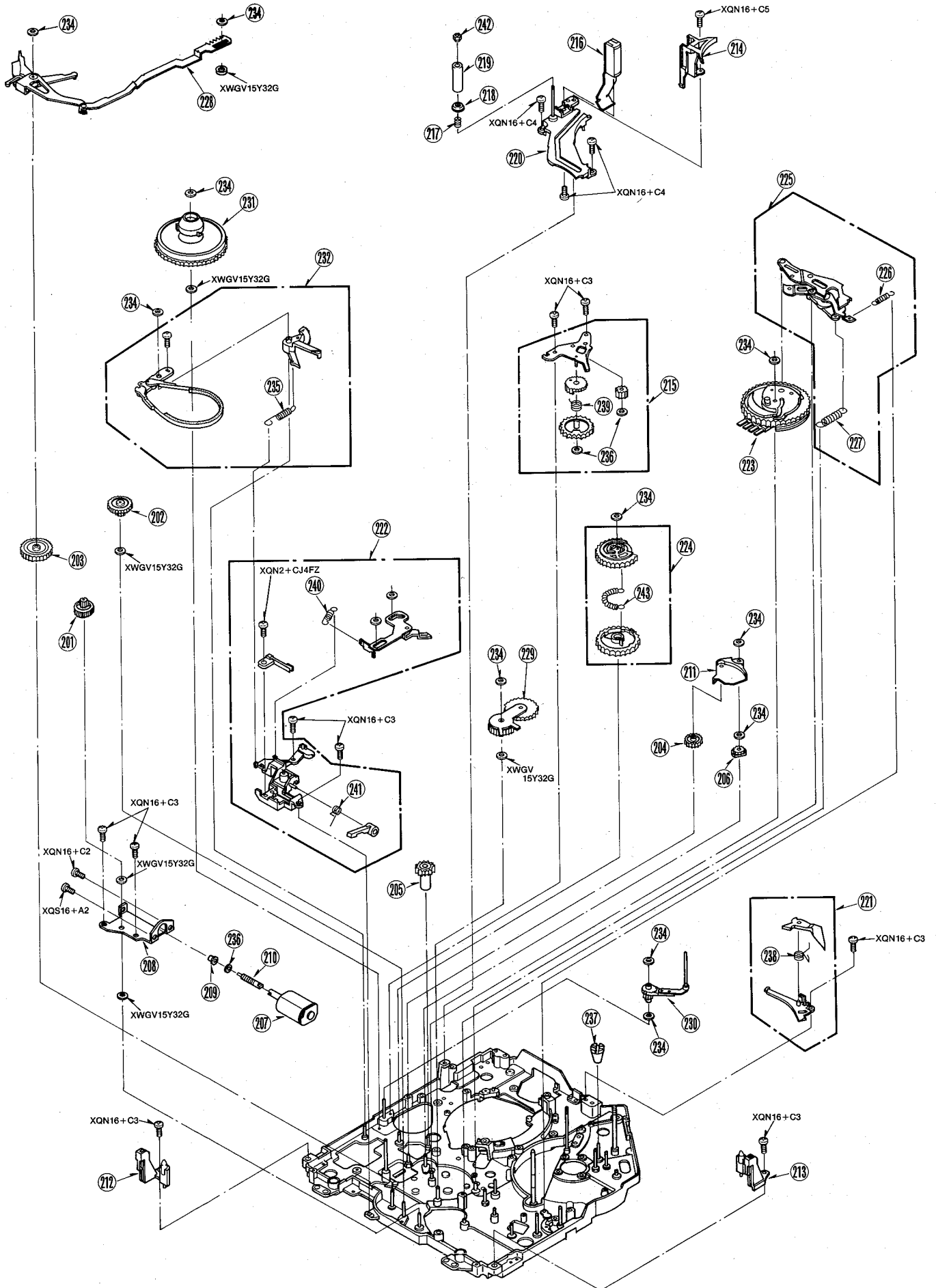
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS

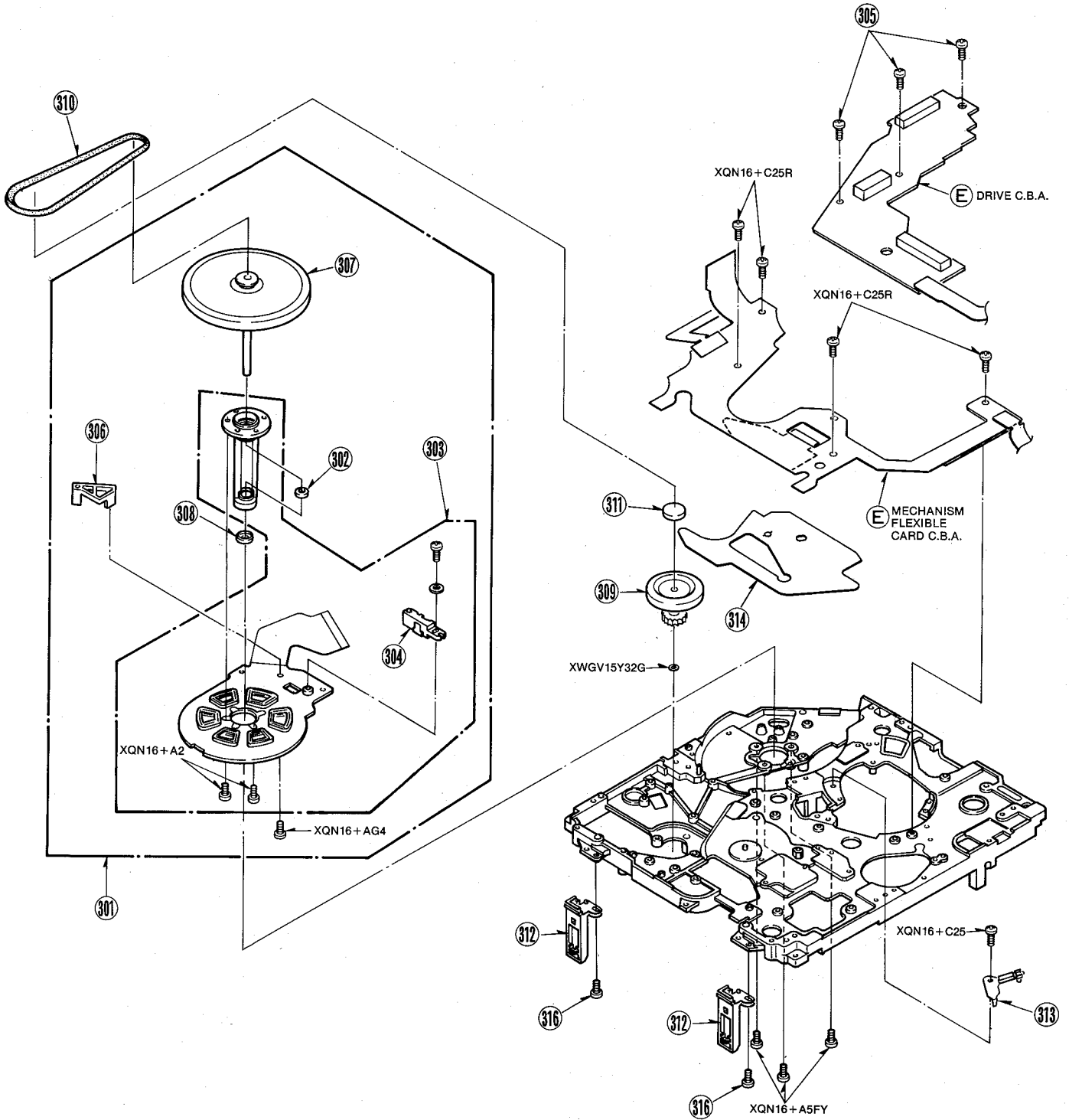
① VTR MECHANISM SECTION (1)



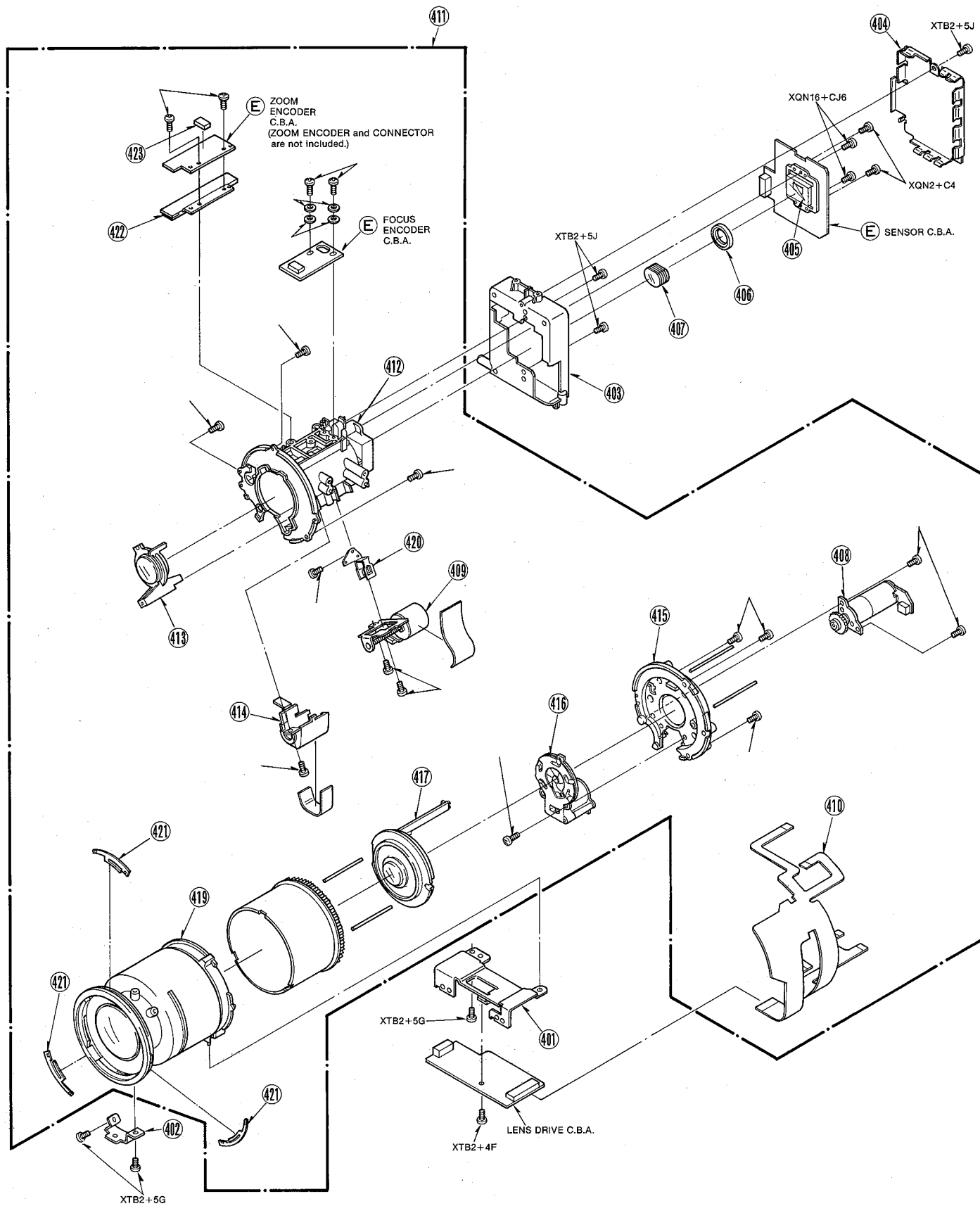
② VTR MECHANISM SECTION (2)



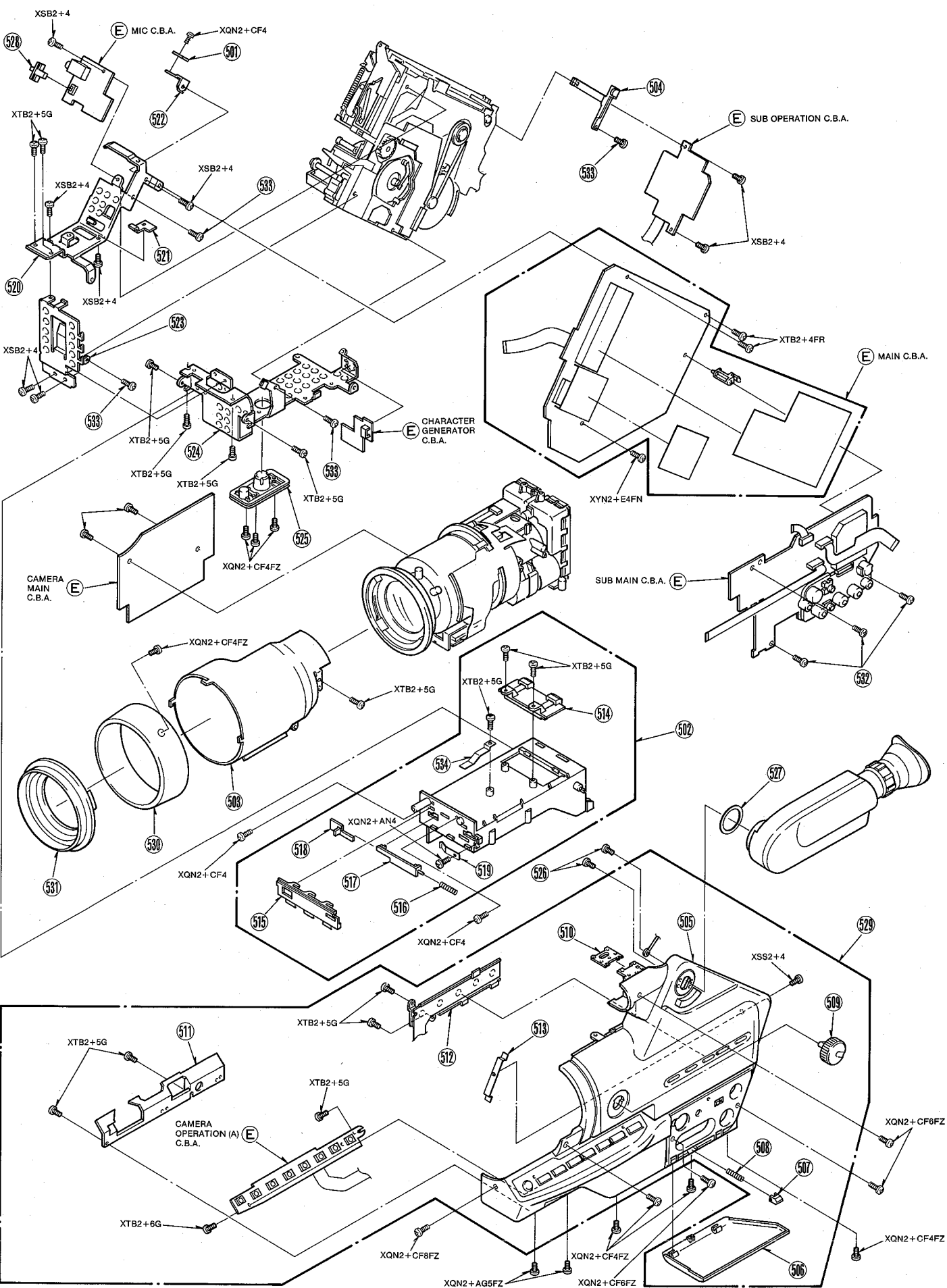
③ VTR MECHANISM SECTION (3)



4 CAMERA LENS SECTION

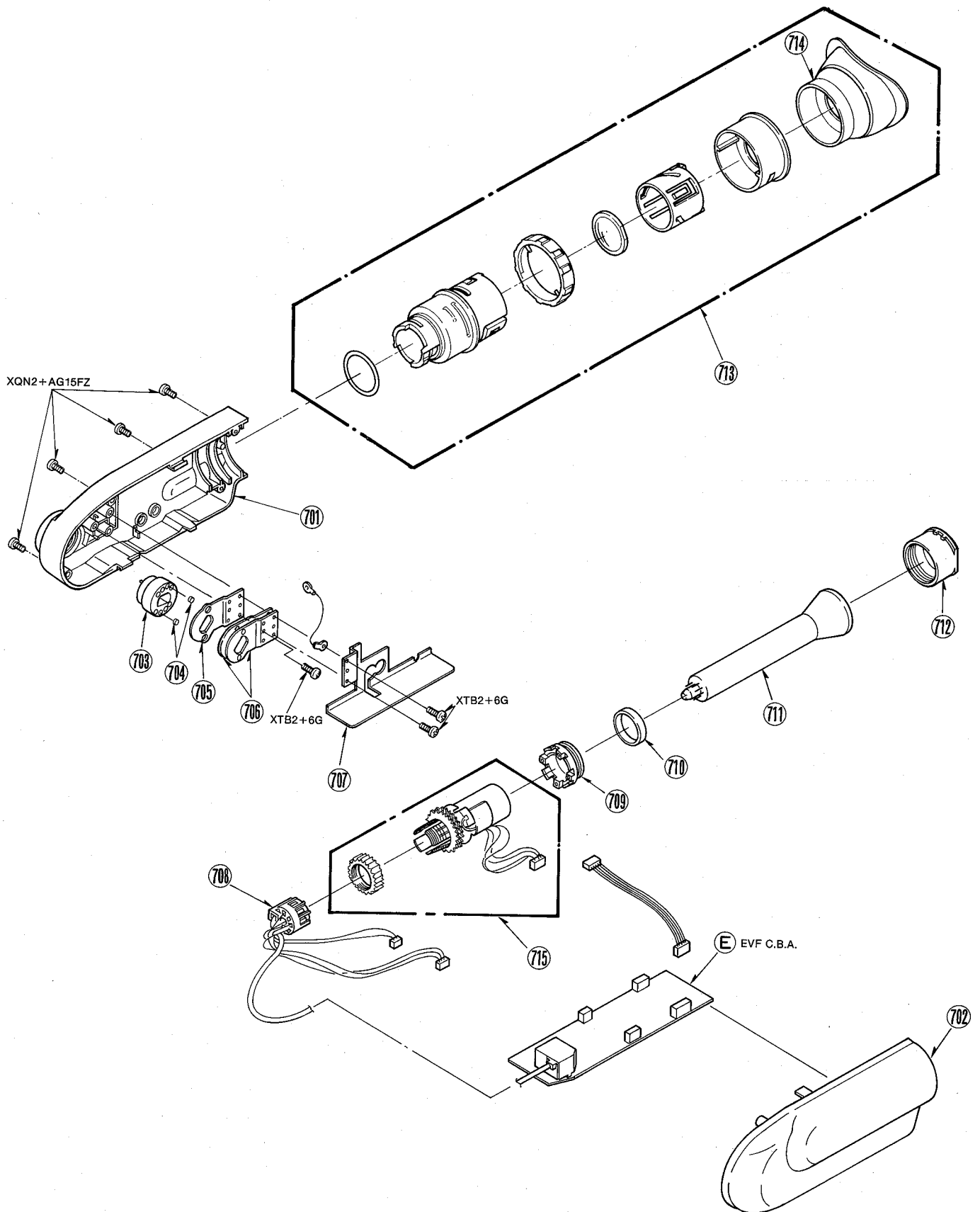


5 FRAME & CASING PARTS SECTION (1)

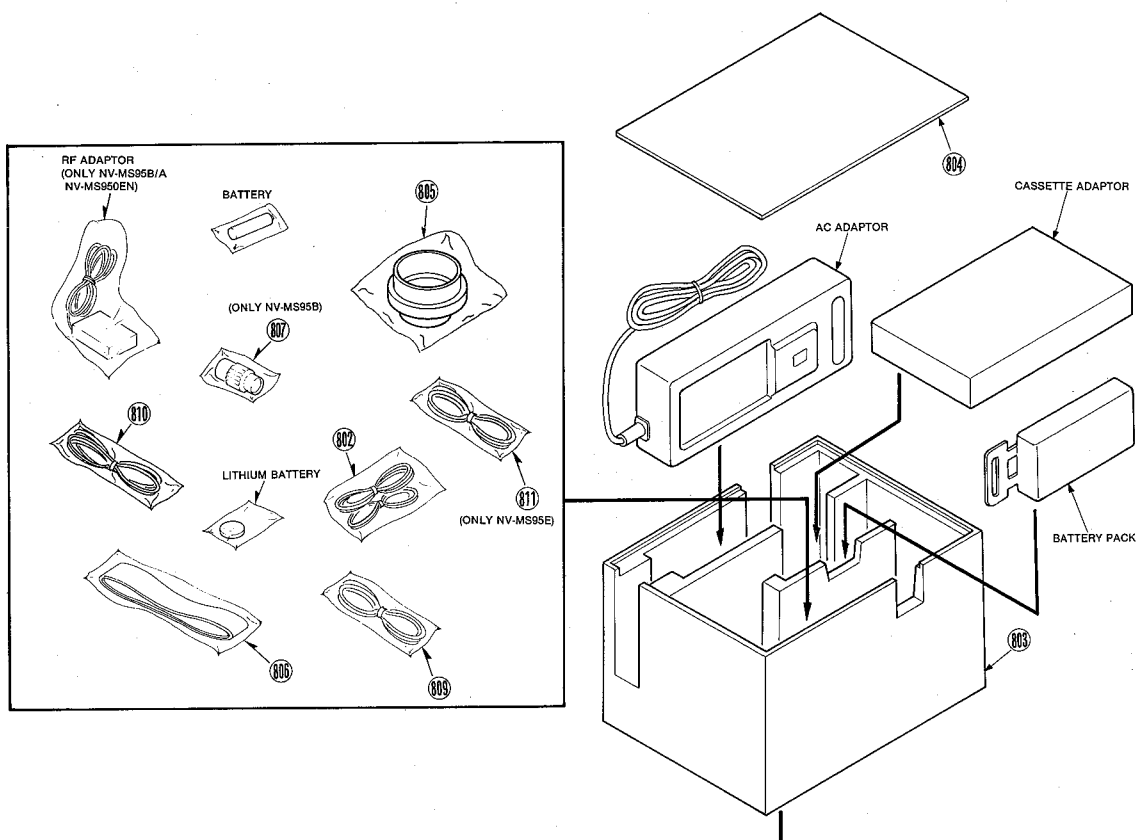


[illegible]

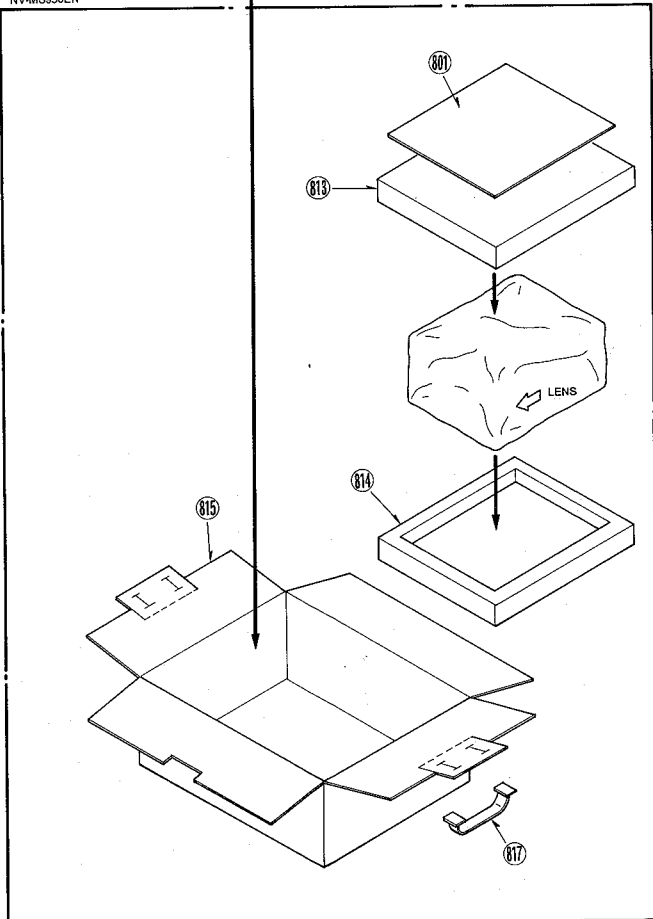
7 E.V.F. SECTION



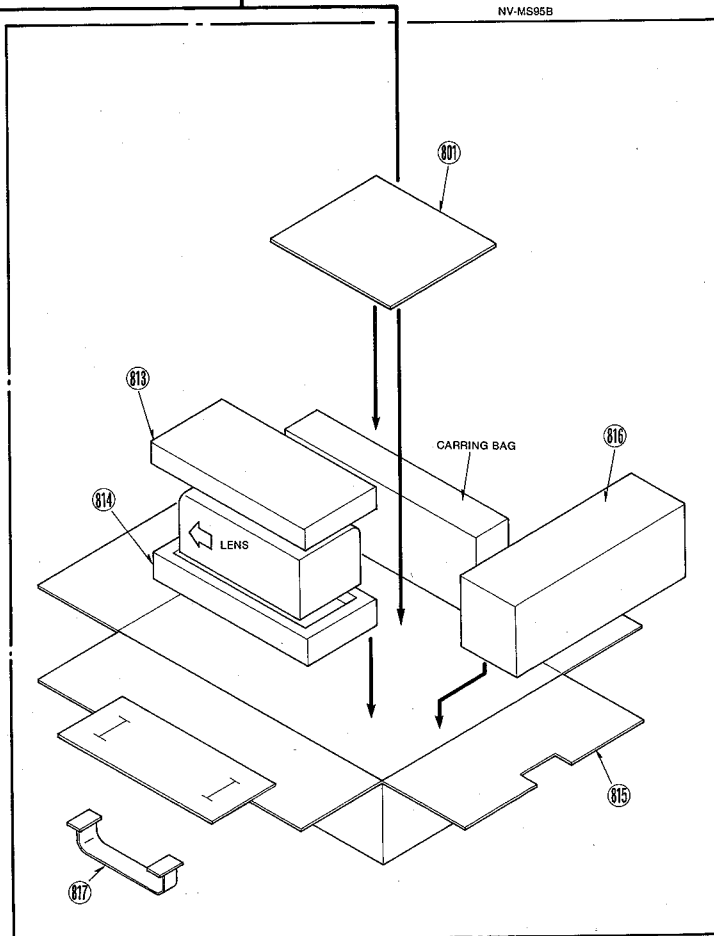
8 PACKING PARTS & ACCESSORIES SECTION



NV-MS95E/A
NV-MS950EN



NV-MS95B



4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark (!) have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
*****	NV-MS95E/B/A			
	NV-MS950EN			
2(1)	VMC0651	LOCK LEVER (A) SPRING	1	
3(1)	VMC2370	LOCK LEVER (A)	1	
4(1)	VXA4241	STAND (L) U.	1	
5(1)	VMC2096	HOLDER SPRING (L)	1	
6(1)	VMC2095	SAFETY LEVER SPRING	1	
7(1)	VXA4242	STAND (R) U.	1	
8(1)	VMC2097	HOLDER SPRING (R)	1	
9(1)	VMC1042	WASHER	1	
11(1)	VXA4372	CASSETTE HOLDER U.	1	
101(1)	VDG0642	DRIVE GEAR (A)	1	
102(1)	VDG0643	DRIVE GEAR (C)	1	
103(1)	VDG0644	DRIVE GEAR (D)	1	
104(1)	VMD1727	T4 CAP	1	
106(1)	VMC2099	T (1) TURNER SPRING	1	
107(1)	VMC2101	A/C BASE SPRING	1	
108(1)	VMC2103	T5 ARM SPRING	1	
109(1)	VMD1718	TAPE OPENER	1	
110(1)	VMD1517	T1 RETURNER	1	
111(1)	VMC1844	T4 FLANGE	1	
112(1)	VMC1805	T4 POST	1	
113(1)	VMC1806	A/C COLLAR	1	
114(1)	VMD1500	S RACK GUIDE	1	
115(1)	VXA3907	S RACK U.	1	
116(1)	VXA3909	S SHAFT HOLDER (2) U.	1	
117(1)	VXP1197	S2 ROLLER POST U.	1	
118(1)	VMC0566	T1 SHAFT HOLDER PLATE	1	
119(1)	VMD1501	T RACK GUIDE	1	
120(1)	VMS4254	T1 SHAFT HOLDER PIN	1	
121(1)	VXA3915	T RACK U.	1	
122(1)	VXA3917	T SHAFT HOLDER (1) U.	1	
123(1)	VXP1162	T ROLLER POST U.	1	
124(1)	VXA3920	T2 SHAFT HOLDER (2) U.	1	
125(1)	VXP1162A	ROLLER POST U.	1	
126(1)	VXA3923	T RAIL (L) U.	1	
127(1)	VXA3925	T RAIL (R) U.	1	
128(1)	VEK5122	A/C HEAD (B) (1) U.	1	
129(1)	VXA3931	PULLEY PLATE U.	1	
130(1)	VMD1671	T2 V STOPPER	1	
131(1)	VMC0586	SPRING	1	
132(1)	VMD1493	U-TI	1	
133(1)	VXA3940	ST-V STOPPER (1) U.	1	
134(1)	VXJ0086	IMPEDANCE ROLLER U.	1	
135(1)	VXL2061	PINCH ARM U.	1	
136(1)	VMC2087	ARM SPRING	1	
137(1)	VMD2362	CORRECTOR (A)	1	
138(1)	VXL2064	CORRECTOR (B) U.	1	
139(1)	VXL1976	T5 ARM U.	1	
140(1)	VXP1157	T CLUTCH GEAR U.	1	
142(1)	VEG0895	CYLINDER U.	1	
143(1)	VEH0498	UPPER CYLINDER U.	1	
144(1)	VMC1061	WASHER	8	
145(1)	VHD0592	SCREW	1	
146(1)	VHD0561	SCREW	3	
147(1)	VMC1777	WASHER	1	
148(1)	VHNO047	NUT	1	
149(1)	VMC2036	A/C TILT SPRING	1	
150(1)	VHD0525	SCREW	1	
151(1)	VHD0526	SCREW	1	
152(1)	VHD0536	SCREW	1	
153(1)	VHNO169	NUT	1	
154(1)	VHD0593	SCREW	2	
155(1)	VHD0389	SCREW	3	
156(1)	VMC2102	CORRECTOR SPRING	1	
157(1)	VMC2100	P5 POST SPRING	1	
158(1)	VMA8113	A/C HEAD BASE	1	
159(1)	VMC1776	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
201(2)	VDG0645	LOADING GEAR (2)	1	
202(2)	VDG0646	LOADING GEAR (3)	1	
203(2)	VDG0647	LOADING GEAR (4)	1	
204(2)	VDG0648	LOADING GEAR (5)	1	
205(2)	VDG0649	LOADING GEAR (T1)	1	
206(2)	VDG0731	ZENERA GEAR	1	
207(2)	VEM0359	LOADING MOTOR (2) U.	1 (!)	
208(2)	VMA8111	WORM HOLDER	1	
209(2)	VMC1744	WORM SHAFT HOLDER	1	
210(2)	VXP1175	WORM U.	1	
211(2)	VMD1515	BAND GUIDE	1	
212(2)	VMD1518	CASS. POSITIONING PIECE (S)	1	
213(2)	VMD1519	CASS. POSITIONING PIECE (T)	1	
214(2)	VMD1530	FE CAP	1	
215(2)	VXA4244	LOADING GEAR S1 U.	1	
216(2)	VEK4700	FE HEAD U.	1	
217(2)	VMC2082	S4 POST SPRING	1	
218(2)	VMC1740	S4 LOWER FLANGE	1	
219(2)	VMC1859	S4 SLEEVE	1	
220(2)	VXA4247	S RAIL (1) U.	1	
221(2)	VXA3924	T1 RAIL (M) U.	1	
222(2)	VXA3928	LOCK BASE U.	1	
223(2)	VXG0025	CAM GEAR U.	1	
224(2)	VXG0023	LOADING GEAR T2 U.	1	
225(2)	VXL1960	SECTOR GEAR U.	1	
226(2)	VMC2084	PINCH HOLDING SPRING	1	
227(2)	VMC2085	PINCH PRESSURE SPRING	1	
228(2)	VXL1964	CORRECTOR DRIVE ARM U.	1	
229(2)	VXL2062	CENTRE GEAR U.	1	
230(2)	VXL2059	TENSION ARM U.	1	
231(2)	VXK0205	S REEL TABLE U.	1	
232(2)	VXZ0278	TENSION REGULATOR U.	1	
234(2)	VMC1061	WASHER	11	
235(2)	VMC2086	TENSION SPRING	1	
236(2)	VMC1840	WASHER	2	
237(2)	VHNO150	NUT	1	
238(2)	VMC2083	(T) RAIL SPRING	1	
239(2)	VMC2080	LOADING GEAR SPRING	1	
240(2)	VMC2021	EJECT LEVER (A) SPRING	1	
241(2)	VMC2093	EJECT LEVER (B) SPRING	1	
242(2)	VHNO168	NUT	1	
243(2)	VMC2081	(T) LOADING GEAR SPRING	1	
301(3)	VEM0384	CAPSTAN MOTOR U.	1	
302(3)	VDB1046	LOWER BEARING	1	
303(3)	VEK5078	STATOR U.	1	
304(3)	VEK0036	MR HEAD	1	
305(3)	VHD0439	SCREW	3	
306(3)	VJF0886	FPC HOLDER	1	
307(3)	VXP1225	ROTOR U.	1	
308(3)	VMD1524	THRUST CAP	1	
309(3)	VDP1300	PULLEY	1	
310(3)	VDA0212	CAPSTAN BELT	1	
311(3)	VMD1580	PULLEY CAP	1	
312(3)	VSH0044	SAFETY SWITCH	1	
313(3)	VXS0095	EARTH BRUSH	1	
314(3)	VMC1648	MECH. FLEX. BARRIER	1	
316(3)	VHD0598	SCREW	1	
401(4)	VMP3060	LENS FRAME	1	
402(4)	VMP3058	LENS ANGLE	2	
403(4)	VJF0932	CCD SENSOR FRAME	1	
404(4)	VSC3315	CCD SENSOR SHIELD PLATE	1	
405(4)	MN3762TF	CCD	1	
406(4)	VMC1803	CCD CUSHION	1	
407(4)	VDL0291	CRYSTAL FILTER	1	
408(4)	VEM0392	ZOOM MOTOR UNIT	1	
409(4)	VEM0349	FOCUS MOTOR UNIT	1	
410(4)	VXJ0490	FLEXIBLE CABLE	1	
411(4)	VXG0083	LENS UNIT	1	
412(4)	VDM0166	MASTER FLANGE	1	
413(4)	VDM0167	4TH MOVING FRAME UNIT	1	
414(4)	VDM0168	FOCUS MOTOR COVER	1	
415(4)	VDM0169	3RD FRAME UNIT	1	
416(4)	VXL2187	IRIS UNIT	1	
417(4)	VDM0170	2ND MOVING FRAME UNIT	1	
419(4)	VDM0172	MAIN LENS UNIT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
420(4)	VXBO014	FOCUS DRIVE RACK	1		641(6)	VMP1079	SHOE RAIL	1	
421(4)	VMO0824	BYONET SPRING	1		642(6)	VMO0241	SHOE SPRING	1	
422(4)	EVAJG8U03B14	ZOOM ENCODER	1	THIS PART IS NOT INCLUDED IN ZOOM	643(6)	VEK5486	MIC UNIT	1	
				ENCODER C.B.A.	701(7)	VKM2699	EVF CASE (L)	1	
423(4)	VJS2533B003	CONNECTOR	1	THIS PART IS NOT INCLUDED IN ZOOM	702(7)	VKM2698	EVF CASE (R)	1	
				ENCODER C.B.A.	703(7)	VGQ2446	ROTARY PIECE	1	
501(5)	VEK2604	DEW SENSOR U.	1		704(7)	VMP2327	STEEL BALL	2	
502(5)	VYK3633	BATTERY CASE U.	1		705(7)	VMP3124	STEEL BALL FIX PLATE	1	
503(5)	VMP3057	LENS COVER	1		706(7)	VMO0731	ROTATION LOCK SPRING	2	
504(5)	VMP3056	MECH. CHASSIS FRAME (D)	1		707(7)	VGQ2542	BARRIER	1	
505(5)	VYK3736	SIDE CASE (R)(1) UNIT	1	NV-MS95E/B/A	708(7)	VEE5962	CRT SOCKET UNIT	1	
505(5)	VYK3858	SIDE CASE (R)(1) UNIT	1	NV-MS950EN	709(7)	VJF0657	CRT HOLDE	1	
506(5)	VKF1667	AV JACK DOOR	1		710(7)	VWX1462	CRT RUBBER	1	
507(5)	VGQ2409	AV DOOR LOCK PIECE	1		711(7)	MO1KG007WB	CRT	1	
508(5)	VMB2316	BATTERY LOCK SPRING	1		712(7)	VGFO414	CRT MASKING	1	
509(5)	VGU5476	MODE SELECT KNOB	1		713(7)	VYQ0301	EYESIGHT ADJUST CASE UNIT	1	
510(5)	VMP2588	SHOE FIX ANGLE	1		714(7)	VXG0532	EYE CAP	1	
511(5)	VGQ2534	CAM. OPERATION HOLDER	1		715(7)	ELY07V570B	DY	1	
512(5)	ESU12353	CAM. OPERATION (B) U.	1		801(8)	VQT4148	OPERATING INSTRUCTIONS (ENGLISH/GERMAN/FRENCH)	1	<1>NV-MS95E
513(5)	VMP3050	CASE FIX ANGLE	1		801(8)	VQT4149	OPERATING INSTRUCTIONS (SPANISH/ITALIAN/DUTCH)	1	<1>NV-MS95E
514(5)	VYQ0577	BATTERY CATCHER U.	1		801(8)	VQT4150	OPERATING INSTRUCTIONS (FINNISH/DANISH/SWEDISH)	1	<1>NV-MS95E
515(5)	VGQ2421	BATTERY LOCK HOLDER	1		801(8)	VQT4155	OPERATING INSTRUCTIONS (ENGLISH)	1	<1>NV-MS95B
516(5)	VMB2316	BATTERY LOCK SPRING (A)	1		801(8)	VQT4156	OPERATING INSTRUCTIONS (ENGLISH)	1	<1>NV-MS95A
517(5)	VGQ2419	BATTERY LOCK	1		801(8)	VQT4153	OPERATING INSTRUCTIONS (ENGLISH/CHINESE)	1	<1>NV-MS950EN
518(5)	VGQ2420	BATTERY RELEASE LEVER	1		801(8)	VQT4154	OPERATING INSTRUCTIONS (ARABIC/HINDI)	1	<1>NV-MS950EN
519(5)	VMO0814	BATTERY LOCK SPRING (B)	1		802(8)	VFA0096	AV OUTPUT CABLE	1	NV-MS95E
520(5)	VMP3068	MECH. CHASSIS FRAME (B)	1		802(8)	VFA0028	AV OUTPUT CABLE	1	NV-MS95B/A, NV-MS950EN
521(5)	VMP3149	MAIN C.B.A. ANGLE	1		803(8)	VFN3170	ACCESSORY BOX	1	
522(5)	VMP3096	DEW SENSOR ANGLE	1		804(8)	VFN3171	PAD (A)	1	
523(5)	VMP3069	MECH. CHASSIS FRAME (C)	1		805(8)	VFM0146	BYONET ADAPTOR	1	
524(5)	VMP3067	MECH. CHASSIS FRAME (A)	1		806(8)	VFC0472	SHOLDER BELT	1	
525(5)	VMD1886	TRIPOD FRAME	1		807(8)	VFA0097	PHONO/BNC PLUG	1	NV-MS95B
526(5)	VHD0584	SCREW	2		809(8)	VJAO669	DC CORD	1	NV-MS95E
527(5)	VWX1694	EVF SPACER	1		809(8)	VJAO591	DC CORD	1	NV-MS95B/A, NV-MS950EN
528(5)	VGU5478	ZOOM MIC KNOB	1		810(8)	VJAO453	S-VHS CABLE	1	
529(5)	VYK3628	SIDE CASE (R) UNIT	1	NV-MS95E/B/A	811(8)	VFA0029	AUDIO CABLE	1	NV-MS95E
529(5)	VYK3852	SIDE CASE (R) UNIT	1	NV-MS950EN	813(8)	VFN3167	CUSHION (UPPER)	1	
530(5)	VGQ2410	LENS RING	1		814(8)	VFN3168	CUSHION (LOWER)	1	
531(5)	VDW0140	LENS HOOD	1		815(8)	VPG5956	PACKING CASE	1	NV-MS95E
532(5)	VHD0439	SCREW	2		815(8)	VPG5957	PACKING CASE	1	NV-MS95B
533(5)	VHD0389	SCREW	4		815(8)	VPG5958	PACKING CASE	1	NV-MS95A
534(5)	VMO0819	BATTERY RELEASE SPRING	1		815(8)	VPG5959	PACKING CASE	1	NV-MS950EN
601(6)	VKF1669	GRIP COVER	1		816(8)	VFN3169	FRONT PAD	1	NV-MS95B
602(6)	VXU1064	BATT. LOCK KNOB UNIT	1		817(8)	VFN2329	HANDLE	1	
603(6)	VYCO465	GRIP BELT UNIT	1						
604(6)	VYF1706	HOOD CAP UNIT	1						
605(6)	VYK3740	GRIP CASE (1) UNIT	1						
606(6)	VHD0386	SCREW	1						
607(6)	VYK3629	SIDE CASE (L) UNIT	1						
612(6)	VYK3741	GRIP PIECE UNIT	1						
613(6)	VYK3630	GRIP CASE UNIT	1						
614(6)	VGU5470	ZOOM BUTTON	1						
615(6)	VMP3055	ZOOM BUTTON BASE	1			VFM818OHUPF	JIG & TOOLS VHS-C ALIGNMENT TAPE	1	PAL
616(6)	VGQ2408	ZOOM BUTTON HOLDER	1			VFK0374	COLOUR TEMP. CONV. FILTER	1	(C12) OR VFK0713
617(6)	VMO0462	RUBBER CONTACT	2			VEK0375	COLOUR TEMP. CONV. FILTER	1	(C2) OR VFK0716
618(6)	VGQ2539	ZOOM BUTTON SHEET	1			VFK0709	26 PIN EXTENSION CABLE	1	
620(6)	VMP2110	BATT. COVER ANGLE	1			VFK0668	24 PIN EXTENSION CABLE	2	
622(6)	VMP3050	CASE FIX ANGLE	1			VFK0710	23 PIN EXTENSION CABLE	1	
623(6)	VMP1793	SUPPORT ANGLE	1			VFK0670	18 PIN FLAT CABLE	1	
624(6)	VML2394	SAFETY LEVER	1			VFK0711	30 PIN EXTENSION CABLE	1	
625(6)	VMB1848	SAFETY LEVER SPRING	1			VFK0644	EVR FIXTURE	1	
626(6)	VKF1668	BACK-UP BATT. COVER	1			VFK0701ROM3	ROM	1	
627(6)	VHD0599	SCREW	1			VFK0335	RETAINING RING REMOVER	1	
628(6)	VYK3737	SIDE CASE (L) (1) UNIT	1			VFK0329	POST ADJ. SCREW DRIVER	1	
629(6)	VYP3533	CASSETTE COVER UNIT	1			VFK0343	CHECK LIGHT	1	
630(6)	VMO0705	BATTERY TERMINAL (A)	1			VFK0326	HEX WRENCH SET	1	
631(6)	VMO0706	BATTERY TERMINAL (B)	1			VFK27	HEAD CLEANING STICK	1	
632(6)	VMP3066	SHOLDER ANGLE (LOWER)	1			MOR265	MORLITONE GREASE	1	
633(6)	VYK3745	REAR CASE (1) UNIT	1						
636(6)	VKF1670	CURSOR	1						
637(6)	VMP3063	VTR OPE. ANGLE (A)	1						
638(6)	VMP3064	VTR OPE. ANGLE (B)	1						
639(6)	VYK3744	VTR OPE. CASE (1) UNIT	1						

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. * Be sure to make your orders of replacement parts according to this list.

2. **IMPORTANT SAFETY NOTICE**
Components identified with the mark (!) have the special characteristics for safety. When replacing any of these components, use only the same type.

3. Unless otherwise specified,
All resistors are in OHMS, $K=1,000$ OHMS. All capacitors are in MICRO-FARADS (uf), $P=10^{-12}$ F.

4. P.C.B. Marking width: " " show below the main assembled parts.

5. Printed circuit board assembly with mark (NLA) is no longer available after discontinuation of the product.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
*****	NV-MS95E/B/A			
	NV-MS950EN			
	VEP23116A	CAMERA MAIN C.B.A.	1	(NLA)
	VEP22102A	SENSOR C.B.A.	1	(NLA)
	VEP27056A	LENS DRIVE C.B.A.	1	(NLA)
	VEP20335A	CAMERA OPERATION C.B.A.	1	(NLA)
	VEP20336A	ZOOM OPERATION C.B.A.	1	(NLA)
	VEP28039A	EVF C.B.A.	1	(NLA)
	VEK5498	GRIP C.B.A. (S/S & SUB S/S)	1	(NLA)
	VEPO3798B	MAIN C.B.A.	1	(NLA)
	VEPO3799B	SUB MAIN C.B.A.	1	(NLA)
	VEPO6718B	VTR OPERATION C.B.A.	1	(NLA)
	VEPOOQ78A	POWER SW C.B.A.	1	(NLA)
	VEPO6719A	SUB OPERATION C.B.A.	1	(NLA)
	VEPO4324A	MIC C.B.A.	1	(NLA)
	VEK5192	HEAD AMP C.B.A.	1	(NLA)
	VEPOOQ80A	CHARACTER GENERATOR C.B.A.	1	(NLA)
	VEPO2370A	DRIVE C.B.A.	1	(NLA)
	VEPO6698A	MECHANISM FLEXIBLE C.B.A.	1	(NLA)
	VEK5738	FOCUS ENCODER C.B.A.	1	(NLA)
		ZOOM ENCODER C.B.A.	1	(NLA)
				THIS PART DO NOT
				INCLUDE THE ZOOM
				ENCODER AND
				CONNECTOR.
	■ VEP23116A	CAMERA MAIN C.B.A.		(NLA)
B301	VJS2961C026	CONNECTOR (FEMALE)	1	
B701	VJS2961C024	CONNECTOR (FEMALE)	1	
		CAPACITORS		
C275,76	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C301	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C302	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C304	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C305	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C306	ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C307	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C308,09	ECST1AX106Z	T.CAPACITOR 10V 10U	2	
C310	ECSTGJY106Z	T.CAPACITOR 6.3V 10U	1	
C311	ECUM1C154ZFN	C.CAPACITOR CH 16V 0.15U	1	
C312	ECST1CX475Z	T.CAPACITOR 16V 4.7U	1	
C313	ECUX1H080CCV	C.CAPACITOR CH 50V 8P	1	
C314	ECRJA020E11	.CAPACITOR V	1	
C315	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C316	ECRJA020E11	.CAPACITOR V	1	
C317	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C318	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C319	ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C320	ECUX1H472K8V	C.CAPACITOR CH 50V 4700P	1	
C321	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1	
C325	ECUX1H821K8V	C.CAPACITOR CH 50V 820P	1	
C327	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C328	ECUX1H820JCV	C.CAPACITOR CH 50V 10P	1	
C329	ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C330-32	ECST1AX106Z	T.CAPACITOR 10V 10U	3	
C333	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C334	ECUM1H100CCV	C.CAPACITOR CH 50V 10P	1	
C335	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C338	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C343	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C360	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C362	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C363	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C364	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C365	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C366	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C370	ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C373	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C405	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C406	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1	
C501	ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C502	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1	
C503-07	ECST1AY475Z	T.CAPACITOR 10V 4.7U	5	
C511	ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C512,13	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C514	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1	
C515,16	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	2	
C518	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1	
C704	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C705,06	ECST1AX106Z	T.CAPACITOR 10V 10U	2	
C707	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C708	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C709	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C710,11	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C712	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1	
C713,14	ECST1AX106Z	T.CAPACITOR 10V 10U	2	
C718	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C719	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C720	ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C721-24	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	4	
C725	ECUX1C683ZFN	C.CAPACITOR 16V 0.068U	1	
C726	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C729	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C730,31	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	2	
C740	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C741	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C742-44	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	3	
C745	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1	
C746	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C747	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C748	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C749	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
D206	MA110	DIODE	1	
D301	MA110	DIODE	1	
D302	MA334B	DIODE	1	
D303	MA110	DIODE	1	
D304	MA3056	DIODE	1	
D305	MA110	DIODE	1	
D701	MA110	DIODE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D702	MA132WA	DIODE	1	
D703-06	MA110	DIODE	4	
D707	MA728	DIODE	1	
D708-10	MA110	DIODE	3	
D711	MA132WK	DIODE	1	
FL301,02	ELB4B530	FILTER	2	
FL303	ELB4B529	FILTER	1	
FL501	ELB4A511	FILTER	1	
FL502	EIK4EW009	FILTER	1	
FP301	VJS2958D023	CONNECTOR (FEMALE)	1	
FP302	VJS2958D015	CONNECTOR (FEMALE)	1	
FP702	VJS2960A014	CONNECTOR (FEMALE)	1	
IC301	MN1882410VOX	IC	1	
IC302	CXD1175AM	IC	1	
IC303	M623526P	IC	1	
IC304	MN74HC02S	IC	1	
IC305	MN6731FHP	IC	1	
IC306	MN6730FHP	IC	1	
IC307	MN67607PAS	IC	1	
IC308	MN67606AP	IC	1	
IC309	MN65701FHP	IC	1	
IC320	M6M80021FP	IC	1	
IC501	AN2015FAP	IC	1	
IC701	UPD75512G083	IC	1	
IC702	AN2585FAP	IC	1	
IC703	MN67803VSTJ	IC	1	
IC704	MN18881VSTK	IC	1	
IC705,06	LM324DB	IC	2	
IC707	MN4053BS	IC	1	
IC708	TC7S04F	IC	1	
IC709	AN6545SP	IC	1 <1>	
L212	ELJFC150KB	COIL	1	
L303	ELJFA150KB	COIL	1	
L305	VLQ0401K3R9	COIL	3.9UH	
L306	VLQ0291	COIL	1	
L307	ELJFA150KB	COIL	1	
L308	ELJFC150KB	COIL	1	
L309,10	ELJFC6R8ZF	COIL	2	
L313	ELJFA150KB	COIL	1	
L314	ELJFC150KB	COIL	1	
L318	ELJFC150KB	COIL	1	
L323	VLQ0291	COIL	1	
L501,02	ELJFA150KB	COIL	2	
L703	ELJFC150KB	COIL	1	
L705,06	ELJPA101KB	COIL	2	
L707	ELJFA150KB	COIL	1	
P701	VJP3073CO22	CONNECTOR (MALE)	1	
P703	VJP3125DO04	CONNECTOR (MALE)	1	
Q201	2SD2216	TRANSISTOR	1	
Q302	XP4501	TRANSISTOR-TRANSISTOR	1	
Q303	2SD2216	TRANSISTOR	1	
Q304	XP4401	TRANSISTOR-TRANSISTOR	1	
Q305	2SB1462	TRANSISTOR	1	
Q306	2SD2216	TRANSISTOR	1	
Q501	2SD2216	TRANSISTOR	1	
Q502,03	2SA1790	TRANSISTOR	2	
Q504	2SB1462	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q505	2SD2216	TRANSISTOR	1	
Q508	XP4601	TRANSISTOR-TRANSISTOR	1	
Q510,11	2SB1462	TRANSISTOR	2	
Q512	XP4401	TRANSISTOR-TRANSISTOR	1	
Q513,14	2SD2216	TRANSISTOR	2	
QR201	UN9212	TRANSISTOR-RESISTOR	1	
QR202	UN9110	TRANSISTOR-RESISTOR	1	
QR301	UN9212	TRANSISTOR-RESISTOR	1	
QR302	UN9216	TRANSISTOR-RESISTOR	1	
QR701	UN9112	TRANSISTOR-RESISTOR	1	
QR702	UN9212	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R243	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R244	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R264	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R302	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R304	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R305	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R306	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R307,08	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R309	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R310	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R311	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R312	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R313	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R315	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R316	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R317	ERJ3GEYJ512	M.RESISTOR CH 1/16W 5.1K	1	
R318	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R319,20	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	2	
R321	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R322	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R323	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R324	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R325	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R326	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R327	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R328	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R329	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R330	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R331	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R332	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R333	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R334-48	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	15	
R349	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R350	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R351	ERJ8GEYJ220	M.RESISTOR CH 1/8W 22	1	
R352	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R354	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R355	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R356	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R357	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R358	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R359	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R360,61	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R362-64	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R365	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R366,67	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R368	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R369	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R370	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R371	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R372	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R373	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R380	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R381	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R408	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R409	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R410	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R426	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R427	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R501	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R503,04	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R505	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R506	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R507	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R508	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R509	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R512	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R519	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R520	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R521	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R522	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R523,24	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	2	
R526	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R527	ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R528	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R529	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R530	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R531	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R705,06	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R707	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R708	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R709,10	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R711	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R712	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R713	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R714	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R715	ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R718-21	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	4	
R722,23	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R724	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R725-28	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	4	
R729	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R731-34	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	4	
R735	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R736	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R737,38	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R739,40	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R741	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R743-52	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	10	
R753-57	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	5	
R758	ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R759	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R760	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R761	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R762	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R763	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R765	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R766	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R767	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R768	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R769,70	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R771	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R772	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R773	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R774	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R775	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R776,77	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R778	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R779	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R780	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R781	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R782,83	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R784	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R786-88	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R789	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R790	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R795	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
RA301-06	EXBV8V101J	RESISTOR ARRAY	6	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
VR201,02	EVM7JSX30B25	V.RESISTOR 200K	2	
VR501	EVM7JSX30B53	V.RESISTOR 5K	1	
VR703	EVM7JSX30B14	V.RESISTOR 10K	1	
VR704	EVM7JSX30B54	V.RESISTOR 50K	1	
X301	VSX0442	CRYSTAL OSCILLATOR	1	
X302	VSX0441	CRYSTAL OSCILLATOR	1	
X701	EFOV8004B0A	CRYSTAL OSCILLATOR	1	
X702	EFOV4194B0A	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VSC3471	SHIELD (TOP)	1	
	VSC3472	SHIELD (BOTTOM)	1	
	VGQ2679	BARRIER	1	
	VEP22102A	SENSOR C.B.A.	(NLA)	
B201	VJP3126D026	CONNECTOR (MALE)	1	
		CAPACITORS		
C201	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C205-08	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	4	
C209	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C210-13	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	4	
C214,15	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C216-19	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	4	
C220	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C221	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C223	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C225	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C226	ECEV1AA330	E.CAPACITOR CH 10V 33U	1	
C227	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C228	ECEV1EAS4R7	E.CAPACITOR CH 25V 4.7U	1	
C230	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C231	ECEVOJA220	E.CAPACITOR 6.3V 22U	1	
C234	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C235	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C236	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C237	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C238	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C239	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C240	ECST1CC106Z	T.CAPACITOR 16V 10U	1	
C241,42	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C243	ECEV1EA100	E.CAPACITOR CH 25V 10U	1	
C244	ECEV1CAS100	E.CAPACITOR CH 16V 10U	1	
C246	ECEV1CAS100	E.CAPACITOR CH 16V 10U	1	
C247	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C248,49	ECUX1C4732FV	C.CAPACITOR CH 16V 0.047U	2	
C250	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C251	ECUM1C2242FN	C.CAPACITOR CH 16V 0.22U	1	
C252	ECEV1EAS4R7	E.CAPACITOR CH 25V 4.7U	1	
C253	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C254	ECEV1VAS3R3	E.CAPACITOR CH 16V 3.3U	1	
C255	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C256	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C257	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C258	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C259	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C260	ECUX1C4732FV	C.CAPACITOR CH 16V 0.047U	1	
C262	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C263	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C265	ECST1CC106Z	T.CAPACITOR 16V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C266	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C267,68	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C269	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C270,71	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C272	ECEV1AA220	E.CAPACITOR CH 10V 22U	1	
C273,74	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C280	ECEV1AA221	E.CAPACITOR CH 10V 22OU	1	
C281	ECUM1H100CCV	C.CAPACITOR CH 50V 10P	1	
D201	MA110	DIODE	1	
D203	MA110	DIODE	1	
D204	MA133	DIODE	1	
D205-09	MA110	DIODE	5	
FL201	EIK4EW008	FILTER	1	
IC201	MN5154-2	IC	1	
IC202,03	MN3110SA	IC	2	
IC204	AN2012SB	IC	1	
IC205	TC7S04F	IC	1	
IC206	TC7S08F	IC	1	
IC209	TC7S08F	IC	1	
L201-05	VLQ0291	COIL	5	
L206	ELJFA150KB	COIL	1	
L207	ELJPA101KB	COIL	1	
L208-10	ELJFA150KB	COIL	3	
L211	ELJFC150KB	COIL	1	
L213	ELJFA101KB	COIL	1	
Q202	2SC4626	TRANSISTOR	1	
Q205,06	2SD2216	TRANSISTOR	2	
Q209	2SD2216	TRANSISTOR	1	
Q210	2SC4627	TRANSISTOR	1	
Q211	2SA1806	TRANSISTOR	1	
Q212	2SC4691	TRANSISTOR	1	
Q213	2SA1806	TRANSISTOR	1	
Q214	2SC4691	TRANSISTOR	1	
Q215,16	2SD2216	TRANSISTOR	2	
		RESISTORS		
R201,02	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R203	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R204	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R205,06	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R207	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R208	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R211	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R214	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R216	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R218	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R220	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R223	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R224	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R225	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R226	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R227	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R228	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R229,30	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	2	
R231	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R234	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R235	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R239	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R245	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R246	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R247	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R248	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R249	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R250	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R251	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R252	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R253	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R255	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R256	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R257	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R258	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R259	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R261	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R263,64	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2	
	■ VEP27056A	LENS DRIVE C.B.A.		(NLA)
B750	VJP3126D024	CONNECTOR (MALE)	1	
		CAPACITORS		
C750	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C751	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C752	ECEVO5A470	E.CAPACITOR CH 4V 47U	1	
C753	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C754	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C755	ECST1CX475Z	T.CAPACITOR 16V 4.7U	1	
C756,57	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C758	ECEVO5A470	E.CAPACITOR CH 4V 47U	1	
C759	ECEV1HAS010	E.CAPACITOR CH 50V 1U	1	
C760-62	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	3	
D751	MA110	DIODE	1	
FP750	VJS2959D020	CONNECTOR (FEMALE)	1	
IC750	TB6503AF	IC	1	
IC751	AN6545SP	IC	1	
IC753	LM358DB	IC	1	
IC754	AN6663SP	IC	1	
L750,51	ELJFC150KB	COIL	2	
L752	ELJFA150KB	COIL	1	
L753	ELJFC150KB	COIL	1	
Q750	2SD2216	TRANSISTOR	1	
QR750	UN9211	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R782,83	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R784	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

[illegible]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		CAPACITORS							
C1201	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1		C3042	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C1202	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C3043	ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1203	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1		C3048	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1204	ECUM1C104ZFN	C.CAPACITOR CH 16V 0.1U	1		C3050	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C2001	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1		C3064	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2002	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1		C3066	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C2003	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1		C3131	ECEVOJAN220	E.CAPACITOR CH 6.3V 22U	1	
C2004	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C3133	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2005	ECST1EY105Z	T.CAPACITOR 25V 1U	1		C3137	ECEVOJAN220	E.CAPACITOR CH 6.3V 22U	1	
C2006	ECEV1CA100	E.CAPACITOR 16V 10U	1		C3138	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C2007	ECEV1CAS100	E.CAPACITOR CH 16V 10U	1		C3802	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C2008	ECUX1E223ZFN	C.CAPACITOR CH 50V 0.022U	1		C3803	ECSTOGY106Z	T.CAPACITOR 4V 10U	1	
C2010	ECUX1H561KBV	C.CAPACITOR CH 50V 560P	1		C3804,05	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C2011	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C3806-09	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	4	
C2012,13	ECUM1C105KB	C.CAPACITOR CH 16V 1U	2		C3810	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2014,15	ECEVOGA470	E.CAPACITOR CH 4V 47U	2		C3811	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C2016	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1		C3812	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2019	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1		C3813	ECST1AC226Z	T.CAPACITOR 10V 22U	1	
C2020	ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1		C3814	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2021	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C3815,16	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	2	
C2022	ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1		C3817	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2023	ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1		C3818,19	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C2024	ECW1E273JP	W.CAPACITOR 25V 0.027U	1		C3820	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C2025	ECST1CY105Z	T.CAPACITOR 16V 1U	1		C3821,22	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C2027,28	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2		C3823	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2029	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1		C3824	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C2030	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1		C3826	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2031	ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1		C3828	ECEVOJA330	E.CAPACITOR CH 6.3V 33U	1	
C2032	ECUM1C274KFM	C.CAPACITOR CH 16V 0.27U	1		C3829	ECEV1CAS100	E.CAPACITOR CH 16V 10U	1	
C2036	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1		C3830	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2038	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1		C3831	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C2039	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1		C3833	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C2040	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C3834	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C2041	ECEV1CA470P	E.CAPACITOR 16V 47U	1		C4001	ECUM1C335ZF	C.CAPACITOR CH 16V 3.3U	1	
C2042	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1		C4002	ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C2043,44	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	2		C4003	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C2045	ECUX1C473ZFN	C.CAPACITOR CH 16V 0.047U	1		C4004	ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C2046	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1		C4005	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C2049	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	1		C4006	ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C2050	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1		C4007	ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C2051,52	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	2		C4008	ECUM1C335ZF	C.CAPACITOR CH 16V 3.3U	1	
C3001	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1		C4009	ECEVOJA220	E.CAPACITOR 6.3V 22U	1	
C3002	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1		C4010	ECEV1VAS2R2	E.CAPACITOR CH 16V 2.2U	1	
C3003	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1		C4011	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C3004	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1		C4012	ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C3005,06	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	2		C4014	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C3007	ECUM1C105KB	C.CAPACITOR CH 16V 1U	1		C4015	ECEVOJA220	E.CAPACITOR 6.3V 22U	1	
C3008,09	ECUX1C104ZFN	C.CAPACITOR CH 16V 0.1U	2		C4017	ECUM1C335ZF	C.CAPACITOR CH 16V 3.3U	1	
C3010	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C4018	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C3011	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C4019	ECSTOJX226Z	T.CAPACITOR 6.3V 22U	1	
C3012	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C4020	ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C3014,15	ECST1AX106Z	T.CAPACITOR 10V 10U	2		C4021	ECEVOJA220	E.CAPACITOR 6.3V 22U	1	
C3016	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1		C4022	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C3017	ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1		C4023	ECUM2A822JCM	C.CAPACITOR CH100V 8200P	1	
C3018	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C4024	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3019,20	ECST1AY475Z	T.CAPACITOR 10V 4.7U	2		C4025	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3021	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1		C4026	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C3022	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1		C4027	ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C3023	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1		C4028	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C3024	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1		C4029	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3025,26	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	2		C4030	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C3027	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1		C4031	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C3028	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1		C4032	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3029	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1		C4033	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C3030	ECEV1CA220	E.CAPACITOR 16V 22U	1		C4034	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C3031,32	ECST1AY475Z	T.CAPACITOR 10V 4.7U	2		C4035	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3033	ECSTOGG476Z	T.CAPACITOR 4V 47U	1		C4501,02	ECEV1HAN010R	E.CAPACITOR 50V 1U	2	
C3034	ECUX1H103ZFN	C.CAPACITOR CH 50V 0.01U	1		C4503	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C3035	ECEVOJA470	E.CAPACITOR 6.3V 47U	1		C4504	ECEVOGA470	E.CAPACITOR CH 4V 47U	1	
C3036	ECUM1C563KBN	C.CAPACITOR CH 16V 0.056U	1		C4505,06	ECST1AY475Z	T.CAPACITOR 10V 4.7U	2	
C3037	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1		C4507,08	ECEVOGA470	E.CAPACITOR CH 4V 47U	2	
C3038	ECUX1H100JCV	C.CAPACITOR CH 50V 10P	1		C4509,10	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	2	
C3039	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1		C4511	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
					C4512	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
					C4513,14	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4515,16	ECEVOGA470	E.CAPACITOR CH 4V 47U	2		C5066	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4517,18	ECEVOJA470	E.CAPACITOR 6.3V 47U	2		C5068	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4519	ECEVOGA101	E.CAPACITOR CH 4V 100U	1		C5069	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C4520	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1		C5071	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C4521,22	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2		C5072-75	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	4	
C4523,24	ECST1AY475Z	T.CAPACITOR 10V 4.7U	2		C5076-79	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	4	
C4525,26	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2		C5080-83	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	4	
C4527,28	ECST1CY225Z	T.CAPACITOR 16V 2.2U	2		C5085,86	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C4529,30	ECEVOGA470	E.CAPACITOR CH 4V 47U	2		C5087	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C4531,32	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	2		C5088	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C4533,34	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	2		C5089	ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C4535,36	ECST0JX226Z	T.CAPACITOR 6.3V 22U	2		C5092	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C4537	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C5101	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C4538	ECST0JX156Z	T.CAPACITOR 6.3V 15U	1		C5102	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C4539,40	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2		C5103	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4541,42	ECEV1AAN100	E.CAPACITOR 10V 10U	2		C5104	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C4543,44	ECEVOJA470	E.CAPACITOR CH 6.3V 47U	2		C5105	ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C4545,46	ECEVOGA5220	E.CAPACITOR CH 4V 22U	2		C5110,11	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C4547	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C5112	ECUX1H561KBV	C.CAPACITOR CH 50V 560P	1	
C4548	ECEVOJA470	E.CAPACITOR 6.3V 47U	1		C5113-15	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	3	
C4549	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1		C5118	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C4550,51	ECST1AX106Z	T.CAPACITOR 10V 10U	2		C5119	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4552	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1		C5120	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C4553	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1		C5124	ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C4554	ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1		C5125	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4555	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1		C5126	ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C4556	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1		C5501	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C4557,58	ECUM1E183KBN	C.CAPACITOR CH 25V 0.018U	2		C5502	ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4559	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1		C5503	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C5001	ECUM1C105KB	C.CAPACITOR CH 16V 1U	1		C5504	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5002	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1		C6001	ECEV1CA220	E.CAPACITOR 16V 22U	1	
C5003	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1		C6002	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C5005	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1		C6006	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5006	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1		C6007	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C5007	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1		C6008	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5008	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1		C6009,10	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C5009	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1		C6011	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5010	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1		C6012	ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C5011	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C6013-16	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	4	
C5012	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1		C6021	ECUM1C4742FM	C.CAPACITOR CH 16V 0.47U	1	
C5013	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C6022	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5014	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1		C6023	ECRJA050G13	.CAPACITOR V	1	
C5015	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1		C6024	ECRJA020E11	.CAPACITOR V	1	
C5016,17	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2		C8008	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5018	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C8009	ECEVOGA470	E.CAPACITOR CH 4V 47U	1	
C5019	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1		C8010	ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C5020	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C8016,17	ECST1AX106Z	T.CAPACITOR 10V 10U	2	
C5021,22	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2		C8024	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C5023-27	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	5		C8026	ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C5028	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1		C8033	ECEV1EAS4R7	E.CAPACITOR CH 25V 4.7U	1	
C5030,31	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2		C8035	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5033,34	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2		C8036	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C5036,37	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2		C8037	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C5039	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1		C8038	ECRJA020E11	.CAPACITOR V	1	
C5040	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C8039	ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C5041	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C8043	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5042	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1		C8044	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C5043	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C8045	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5044	ECUM1H822KBV	C.CAPACITOR CH 50V 8200P	1		C8046	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C5045	ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	1		C8047,48	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C5046,47	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2		C8049	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C5048	ECEVOJA470	E.CAPACITOR 6.3V 47U	1		C8050-52	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	3	
C5049,50	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2		C8054,55	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C5051	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C8057	ECUM1C3352F	C.CAPACITOR CH 16V 3.3U	1	
C5052	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1		C8065	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5053,54	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2		C8066	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5055	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C8069	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5056	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1		C8070	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5057	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1		C8073	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5058	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1		C8074	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C5060	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1		C8095	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5061	ECST1AX106Z	T.CAPACITOR 10V 10U	1		C8110	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C5063	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1						
C5064	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1						
C5065	ECUM1H471JN	C.CAPACITOR CH 50V 470P	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D1201	MA132K	DIODE	1		IC6009	TC4566F	IC	1	
D2001, 02	MA133	DIODE	2		IC8001	VCR0323	IC	1	
D2003-05	MA132WK	DIODE	3		IC8002	AN3497SB	IC	1	
D3001-05	MA132WK	DIODE	5						
D3801	MA133	DIODE	1						
D3803	MA132K	DIODE	1						
D4001	MA132K	DIODE	1		L1201	ELJPA150KB	COIL	1	
D4501	MA133	DIODE	1		L2001, 02	VLQ0319K100	COIL	H 2	
D4502	MA132WK	DIODE	1		L2003	VLQ0463	COIL		1
D4503	MA132K	DIODE	1		L3001	ELJFA82QJB	COIL		1
D4504, 05	MA157	DIODE	2		L3003, 04	VLQ0163J101	COIL	100UH	2
D4506, 07	MA132WK	DIODE	2		L3005-07	VLQ0319K101	COIL	H	3
D4509, 10	MA132WK	DIODE	2		L3009	VLQ0319K101	COIL	H	1
D5001-08	MA132WK	DIODE	8		L3010	VLQ0163J8R2	COIL	8. 2UH	1
D5012	MA132WK	DIODE	1		L3011	VLQ0163J390	COIL	39UH	1
D6001, 02	MA3130	DIODE	2		L3801	VLQ0319K101	COIL	H	1
D6003, 04	MA133	DIODE	2		L3802	VLQ0463	COIL		1
D6005-08	MA132K	DIODE	4		L4001	VLQ0423J153	COIL	15MH	1
D6009, 10	MA132WA	DIODE	2		L4003	VLQ0319K101	COIL	H	1
D6011	MA132K	DIODE	1		L4004	VLQ0319F221	COIL	220UH	1
D6012	MA133	DIODE	1		L4501-03	VLQ0319K101	COIL	H	3
D6013, 14	MA132K	DIODE	2		L4504	VLQ0163J560	COIL	56UH	1
D6015	MA721	DIODE	1		L4505, 06	VLQ0438K471	COIL	470UH	2
D6016	MA132A	DIODE	1		L5001-04	VLQ0319K101	COIL	H	4
D6017	MA728	DIODE	1		L5005	VLQ0319K100	COIL	H	1
					L5006	VLQ0163J120	COIL	12UH	1
					L5007	VLQ0319K101	COIL	H	1
					L5008	VLQ0163J150	COIL	15UH	1
DL8001	EFDAT124A1 3B	DELAY	1		L5009	VLQ0163J330	COIL	33UH	1
					L5010	VLQ0319K101	COIL	H	1
					L5021	VLQ0163J3R9	COIL		1
					L5022	VLQ0163J121	COIL	120UH	1
FL3001	ELB4E518	FILTER	1		L5023	VLQ0163J150	COIL	15UH	1
FL3002	VLFO950	FILTER	1		L5024	VLQ0163J390	COIL	39UH	1
FL3003	VLFO802	FILTER	1		L5025	VLQ0319K101	COIL	H	1
FL3004	VLFO803	FILTER	1		L5101	VLQ0163J560	COIL	56UH	1
FL4501	VLFO934	FILTER	1		L8002	ELJFA150KB	COIL		1
FL4502	VLFO935	FILTER	1		L8004, 05	VLQ0319K470	COIL	H	2
FL5001	VLFO593	FILTER	1		L8006	VLQ0319K101	COIL	H	1
FL5002	ELB4B531	FILTER	1		L8007, 08	ELJFA150KB	COIL		2
FL5003	VLFO817	FILTER	1		L8011	ELJFB102KB	COIL		1
FL8001	VLFO887	FILTER	1		L8012	ELJFB681KB	COIL		1
FL8002	ELB3H001	FILTER	1		L8016	VLQ0163J270	COIL		1
IC1201	S8420BF	IC	1		P2001	VJS2961C024	CONNECTOR (FEMALE)	1	
IC1202	TC7W04F	IC	1		P3001	VJS2960C026	CONNECTOR	1	
IC2001	MN67512VFFA	IC	1		P3002	VJS2960C023	CONNECTOR	1	
IC2002, 03	LM358DB	IC	2		P3003	VJS2961C006	CONNECTOR	1	
IC2004	MN12821Q	IC	1		P4002	VJS2959B007	CONNECTOR (FEMALE)	1	
IC2005	LM393DB	IC	1		P4501	VJP3125D004	CONNECTOR (MALE)	1	
IC3001	VEFHL8B	HIC	1		P5003	VJS2958D023	CONNECTOR (FEMALE)	1	
IC3002	TL8809FE	IC	1		P6001	VJP3126D032	CONNECTOR (MALE)	1	
IC3003	AN3292NS	IC	1		P6002	VJS2959B018	CONNECTOR (FEMALE)	1	
IC3802	MN74HC32S	IC	1		P6003	VJS2960C030	CONNECTOR	1	
IC3803	AN2355S	IC	1		P6004	VJS2960C009	CONNECTOR	1	
IC3804	CF77544AFR	IC	1		P6005	VJP3125D006	CONNECTOR	1	
IC3805	MN12821R	IC	1		P6006	VJS2961C008	CONNECTOR	1	
IC4001	BA7752FS	IC	1		P6007	VJP3126D008	CONNECTOR	1	
IC4501	BA3308F	IC	1						
IC4502	RC3415M	IC	1						
IC4503	S8125OHGRD	IC	1						
IC4504	VCR0324	IC	1						
IC5001	AN3348FBP	IC	1		Q2001	2SD2216	TRANSISTOR	1	
IC5002	VEFHL0D	IC	1		Q3001	2SD2216	TRANSISTOR	1	
IC5003	AN3396S	IC	1		Q3003	2SB1462	TRANSISTOR	1	
IC6001	UPD75108GR12	IC	1		Q3004	XN1501	TRANSISTOR-TRANSISTOR	1	
IC6002	UPC393G2	IC	1		Q3007, 08	2SB1462	TRANSISTOR	2	
IC6003	M54543AFP	IC	1		Q3801	XP4601	TRANSISTOR-TRANSISTOR	1	
IC6004	TC4S71F	IC	1		Q3802	2SD2216	TRANSISTOR	1	
IC6005	MN12821R	IC	1		Q3803-05	2SB1462	TRANSISTOR	3	
IC6006	S8125OHGRD	IC	1		Q3806	XP4401	TRANSISTOR-TRANSISTOR	1	
IC6007	TC4S71F	IC	1		Q3807	XP6501	TRANSISTOR-TRANSISTOR	1	
IC6008	TC4W53F	IC	1		Q3808, 09	XP4601	TRANSISTOR-TRANSISTOR	2	
					Q3810	2SD2216	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2088	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1		R3824	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R2090, 91	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2		R3825, 26	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R3001	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		R3827	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3002	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1		R3828	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3003, 04	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2		R3829, 30	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R3005	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1		R3831	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R3007	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3832	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3008	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		R3833	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3010	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		R3834	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3011	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R3835	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3013	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3836, 37	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R3015	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3838	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3016	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1		R3839	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3017, 18	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R3840	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3020	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1		R3841, 42	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R3022	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1		R3843	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3023	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1		R3844	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3024	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1		R3845	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R3026	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		R3846	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3027	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		R3847	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3028	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		R3849	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3029	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1		R3850	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3030	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3851, 52	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R3031	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		R3853	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3032	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		R3854	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R3033	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3855	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3034	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		R3856	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3036, 37	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R3857	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3038	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1		R3858	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3039	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3859	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3040	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3860	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R3041	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1		R3861	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3042	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R3862	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3043	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		R3863	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3045	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1		R3864	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3046	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1		R3865	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3048	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		R3866	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3050	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1		R3867	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3052	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1		R3868	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3057, 58	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	2		R3869	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3066	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3870	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3072	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R3871	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3084	ERJ8GEYOR00	M.RESISTOR CH 1/8W 0	1		R3872	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3114	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		R3874	ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1	
R3130	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3875, 76	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	2	
R3131	ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1		R3877	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3132, 33	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R3880	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R3134	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1		R4001	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3135	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R4002	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R3139	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		R4003	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R3140	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R4004	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3141	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1		R4005	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R3142	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R4006	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3143, 44	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2		R4007	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3145	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		R4008	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3146	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R4009	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3147	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R4010	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3801	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R4011	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R3802	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R4012	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3807	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1		R4013	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3808	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1		R4014	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R3809	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1		R4015	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3810	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1		R4016	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3811	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R4017	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3812	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1		R4018	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3813	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1		R4019	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3814	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1		R4020	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3815	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1		R4021	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3816	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R4022	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3817	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1		R4023	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3819	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1		R4024	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3820	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R4025	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3821	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		R4026	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3822	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1		R4027	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R3823	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		R4028	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4029	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		R5047	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4030, 31	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2		R5048	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R4033	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1		R5049	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4035	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R5051	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R4036, 37	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	2		R5052	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4038	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1		R5053	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4039	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R5054	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4040, 41	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R5055-57	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	3	
R4042	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R5058	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4043	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R5059	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R4044	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		R5060	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4501, 02	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R5061	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4503, 04	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2		R5063	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4505	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1		R5064	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R4506	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1		R5073	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4507	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R5074	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R4508	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R5076	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R4509	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1		R5077	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4510	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1		R5079	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4511, 12	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2		R5080, 81	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R4513, 14	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2		R5082, 83	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R4515, 16	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2		R5084, 85	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R4517, 18	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2		R5086	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4519	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1		R5087	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4520	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R5088, 89	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R4521, 22	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2		R5090, 91	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4523, 24	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	2		R5093	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R4525, 26	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2		R5100	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4527, 28	ERJ8GEYJ121	M.RESISTOR CH 1/8W 120	2		R5102	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4529, 30	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2		R5103	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4531, 32	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2		R5104	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4533, 34	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2		R5105	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4536, 37	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2		R5106	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4539, 40	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R5107	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4541, 42	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2		R5108	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4543, 44	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	2		R5109	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4545-48	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	4		R5110, 11	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	2	
R4549, 50	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2		R5112	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4551, 52	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	2		R5113	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4553, 54	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2		R5114, 15	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R4555, 56	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2		R5116	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4557	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1		R5117	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4558	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		R5123	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4559	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1		R5501	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4560	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1		R6001	ERJ8GEYJ100	M.RESISTOR CH 1/8W 10	1	
R4561	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		R6002	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4562	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R6003	ERJ8GEYJ472	M.RESISTOR CH 1/8W 4.7K	1	
R4563	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R6004	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4564, 65	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2		R6005	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R4566	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R6009	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R5001	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1		R6010	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R5002	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1		R6011	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R5003	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R6012	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R5004	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1		R6013	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5005	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1		R6014	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5006	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R6015	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R5007	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1		R6016	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5008	ERJ6GEYJ4R7	M.RESISTOR CH 1/10W 4.7	1		R6017	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5009-12	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	4		R6018	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R5013, 14	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2		R6019	ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
R5015, 16	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	2		R6020	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R5017, 18	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2		R6021	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5019	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R6022	ERJ8GEYJ181	M.RESISTOR CH 1/8W 180	1	
R5020-23	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	4		R6023-25	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R5024-27	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	4		R6026	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R5028-31	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4		R6030, 31	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R5032	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R6032	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5035	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		R6033-42	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	10	
R5036, 37	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R6043	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5038	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1		R6045	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R5040	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1		R6046, 47	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R5042	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1		R6048	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R5043	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1		R6049-52	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R5044	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R6053	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5045, 46	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		R6054	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6055	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1						
R6056	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1						
R6058	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		T4001	EIQ6QBO01T	TRANSFORMER	1	
R6059-61	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3		T4002	VLQ0543	TRANSFORMER	1	
R6063	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1						
R6064	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1						
R6065	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1						
R6066, 67	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2		VR2001	EVM7JSX30B15	V.RESISTOR	1	
R6068	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		VR3001,02	EVM7JSX30B23	V.RESISTOR	2	
R6071	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		VR3003	EVM7JSX30B24	V.RESISTOR 20K	1	
R6073	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1		VR3006,07	EVM7JSX30B23	V.RESISTOR	2	
R6074	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		VR3801	EVM7JSX30B13	V.RESISTOR 1K	1	
R6075, 76	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		VR3802,03	EVM7JSX30B53	V.RESISTOR 5K	2	
R6077	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		VR3804	EVM7JSX30B13	V.RESISTOR 1K	1	
R6078, 79	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2		VR4001	EVM7JSX30B14	V.RESISTOR 10K	1	
R6080, 81	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		VR4002	EVM7JSX30B54	V.RESISTOR 50K	1	
R6082	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		VR5001	EVM7JSX30B54	V.RESISTOR 50K	1	
R6084	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1		VR5002	EVM7JSX30B52	V.RESISTOR	1	
R6085	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		VR5003	EVM7JSX30B14	V.RESISTOR 10K	1	
R6086	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1		VR5004	EVM7JSX30B23	V.RESISTOR	1	
R6087-89	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3		VR6001	EVM7JSX30B14	V.RESISTOR 10K	1	
R6090	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		VR8001	EVM7JSX30B13	V.RESISTOR 1K	1	
R6095, 96	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2		VR8006	EVM7JSX30B13	V.RESISTOR 1K	1	
R6097, 98	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2		VR8007	EVM7JSX30B52	V.RESISTOR	1	
R6101	ERJ8GCYJ100	M.RESISTOR CH 1/8W 10	1						
R6102	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R8002	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1						
R8003	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		X2001	VSX0376	CRYSTAL OSCILLATOR	1	
R8004	ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1		X3801	VSX0444	CRYSTAL OSCILLATOR	1	
R8006	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		X6001	EF0V4194B0A	CRYSTAL OSCILLATOR	1	
R8007	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1		X8001	VSX0419	CRYSTAL OSCILLATOR	1	
R8008	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1						
R8011	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1						
R8012	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1				MISCELLANEOUS		
R8015	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1			VSC3420	H.A SHIELD (FOIL SIDE)	1	
R8016	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1			VSC3419	H.A SHIELD (COMPONENT SIDE)	1	
R8017	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1			VWJ0543	FLEXIBLE CABLE (23PIN)	1	(P3002"FP301)
R8018	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1			VM21857	BARRIER	1	
R8019	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1			VGQ2476	SPACER	1	
R8020	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1						
R8026	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1						
R8027	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1						
R8038	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R8039	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1						
R8040	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1			VEPO3799B	SUB MAIN C.B.A.		(NLA)
R8041	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1						
R8042	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1						
R8045	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R8046	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1						
R8047	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1				CAPACITORS		
R8048	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1		C1001	ECGL1BA4R7	.CAPACITOR V	1	
R8049	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1		C1002	ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
R8050	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1		C1003	ECUX1C104ZFU	C.CAPACITOR CH 16V 0.1U	1	
R8058	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		C1005	ECGLOK8R2	.CAPACITOR V	1	
R8060	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		C1006	ECUX1H331KBV	C.CAPACITOR CH 50V .330P	1	
R8061	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		C1007	ECST1AD476Z	T.CAPACITOR 10V 47U	1	
R8071	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		C1008	ECUX1H331KBV	C.CAPACITOR CH 50V 330P	1	
R8072	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1		C1009	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
R8073	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1		C1010	ECGL1BA4R7	.CAPACITOR V	1	
R8074	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		C1011	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
R8075	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1		C1012	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
R8076, 77	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2		C1013	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
R8078	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1		C1014	ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
R8079	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		C1015	ECEV1CA100	E.CAPACITOR 16V 10U	1	
R8080	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1		C1016	ECST1VY104Z	C.CAPACITOR CH 16V 0.1U	1	
R8081	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1		C1017	ECGL1BA4R7	.CAPACITOR V	1	
R8082	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		C1018	ECST1CD336Z	T.CAPACITOR 16V 33U	1	
R8087	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		C1019	ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
R8095	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1		C1020	ECEV1AA330	E.CAPACITOR CH 10V 33U	1	
R8096	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		C1021	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
R8097	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		C1022	ECEV1CA100	E.CAPACITOR 16V 10U	1	
R8099	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1		C1024	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
R8102	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		C1025	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
R8103	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		C1026	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
					C1027	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
					C1028	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1029	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C1030	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1031	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1032	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C1033	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C1034	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C1036	ECST1CD336Z	T.CAPACITOR 16V 33U	1	
C1040	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C1041	ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C1042	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1044	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1045	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C1046	ECEA1ASE121	E.CAPACITOR 10V 120U	1	
C1049	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C1050	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C1052, 53	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	2	
C1058-61	ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	4	
C1062	ECA1CKF470	E.CAPACITOR 16V 47U	1	
C1501, 02	ECST1AY475Z	T.CAPACITOR 10V 4.7U	2	
C1503	ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C3501	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C3502, 03	ECEVOGA221	E.CAPACITOR CH 4V 220U	2	
C3504	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C3505, 06	ECEVOGA221	E.CAPACITOR CH 4V 220U	2	
C3507	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	1	
C3508, 09	ECST1CB475Z	T.CAPACITOR 16V 4.7U	2	
C3510-15	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	6	
C3516	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3517	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	1	
C3518	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	1	
C3519	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3522	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3523	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C3524	ECUX1H100CV	C.CAPACITOR CH 50V 10P	1	
C3525	ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C3526-28	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	3	
C3529	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C3532-35	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	4	
C3539, 40	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	2	
C3541	ECEV1AA470	E.CAPACITOR 10V 47U	1	
C3542	ECST1CB475Z	T.CAPACITOR 16V 4.7U	1	
C3543, 44	ECEVOJA101	E.CAPACITOR CH 6.3V 100U	2	
C3545	ECUX1H103ZFY	C.CAPACITOR CH 50V 0.01U	1	
D1001	MA738	DIODE	1	
D1002	MA3100L	DIODE	1	
D1003	EC10QS04-TEL	DIODE	1	
D1004	MA728	DIODE	1	
D1005	SB05-05CF-TB	DIODE	1	
D1006, 07	MA142K	DIODE	2	
D1008	SB05-05CF-TB	DIODE	1	
D1009	MA142K	DIODE	1	
D1010	MA121	DIODE	1	
D1011	SB05-05CF-TB	DIODE	1	
D1012	MA142K	DIODE	1	
D1014	SFPB-64	DIODE	1	
D1501	PG1102W	DIODE	1	
D3505, 06	MA142K	DIODE	2	
FL1501, 02	VLFO952A471	FILTER	2	
FL1503	VLFO952A101	FILTER	1	
IC1001	BA9702FS	IC	1	
IC1501	TC4S66F	IC	1	
IC3501	AN3580SB	IC	1	
IC3502	MS2055FP	IC	1	
IC3503	NJM2235MA	IC	1	
IC3504, 05	TC4S66F	IC	2	
IC3506	VEFH12A	HIC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1007	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1		R3525	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1008	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1		R3530	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R1009	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		R3531	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R1010	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R3532	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R1011	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3533	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1012	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3534	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1013	ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1		R3535	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R1014	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R3536	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R1015	ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1		R3540,41	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2	
R1016	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1		R3542	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R1017	ERJ6GMJ102	M.RESISTOR CH 1/10W 1K	1		R3543	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R1018	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3544	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1021,22	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	2		R3545	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R1023	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1		R3546	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1024	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3547	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R1025	VRE0034E153	M.RESISTOR CH 1/10W 15K	1		R3548	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R1026	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		R3549	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1027	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1		R3550	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R1028	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1		R3551	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R1029	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1		R3552	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1030	ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1		R3554	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1031	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1		R3555	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R1032	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3556	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R1033	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1		R3557	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1035	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3558	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R1036	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1		R3559	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R1037	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1						
R1038	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1						
R1041	VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1						
R1042	VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1		SW1501	VSS0300	SWITCH	1	
R1043	VRE0034E393	M.RESISTOR CH 1/10W 39K	1		SW3501	VSR0085	SWITCH	1	
R1044	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1						
R1045	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1						
R1046	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1						
R1047	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		T1001	VTP0334	TRANSFORMER	1	
R1048	ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1		T1002	ELLO4T013R	TRANSFORMER	1	
R1050,51	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2						
R1054	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R1055	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1						
R1056	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1		VR1001	EVM7JSX30B23	V.RESISTOR	1	
R1060	ERJ8GEYJ560	M.RESISTOR CH 1/8W 56	1		VR1002	EVM7JSX30B52	V.RESISTOR	1	
R1061	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1		VR3501	EVM7JSX30B23	V.RESISTOR	1	
R1062	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1		VR3503	EVM7JSX30B54	V.RESISTOR 50K	1	
R1063,64	ERJ8GEYJ221	M.RESISTOR CH 1/8W 220	2						
R1066	ERJ6GMJ154	M.RESISTOR CH 1/10W 150K	1						
R1067	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1				MISCELLANEOUS		
R1068	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1			VJH0612	AV JACK BOARD	1	
R1069	VSP0015A08	IC PROTECTOR	1 <1>			VWJ0544	FLEXIBLE CABLE (15PIN)	1	(P3503~FP302)
R1070	VSP0059	FUSE	1 <1>			VWJ0542	FLEXIBLE CABLE (26PIN)	1	(P3501~F3001)
R1501,02	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2			VWJ0541	FLEXIBLE CABLE (30PIN)	1	(P3502~F6003)
R1503,04	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	2			VSC3416	POWER SHIELD (FOIL SIDE)	1	
R1505	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1			VSC3417	POWER SHIELD (COMPONENTSIDE)	1	
R1506	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1						
R1507	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1						
R3501	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R3503	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R3504	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1						
R3505	ERJ3GEYJ0R00	M.RESISTOR CH 1/16W 0	1			VEP06718B	VTR OPERATION C.B.A.		(NLA)
R3506	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1						
R3507	ERJ3GEYJ0R00	M.RESISTOR CH 1/16W 0	1						
R3508	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1						
R3509	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R3510,11	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	2				CAPACITORS		
R3512	ERJ3GEYJ0R00	M.RESISTOR CH 1/16W 0	1		C6501	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
R3513	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1		C6502,03	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
R3514	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		C6504	ECUX1H0500CV	C.CAPACITOR CH 50V 5P	1	
R3515	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1		C6506	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
R3516	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		C6508	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
R3517	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1		C6509	ECRJA030E11	TRIMMER	1	
R3518	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1		C6512,13	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
R3519	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1		C7002	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
R3520	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1		C7003	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
R3521	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		C7004	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
R3522	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		C7005	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
R3523,24	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2		C7006	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
					C7007,08	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7009	ECUX1C104ZFN	C.CAPACITOR CH 16V 1U	1						
C7010	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1						
C7011	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1		SW6501-10	EVQQHP01W	SWITCH	10	
C7012	ECUX1H68QJCV	C.CAPACITOR CH 50V 68P	1		SW6511,12	VSSO298	SWITCH	2	
C7013	ECUX1H47QJCV	C.CAPACITOR CH 50V 47P	1		SW6513	VSP0488	SWITCH	1	
C7016	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1		SW6514	EVQQHP01W	SWITCH	1	
D6501-04	MA121	DIODE	4		X6501	VSX0439	CRYSTAL OSCILLATOR	1	
D6508	MA132K	DIODE	1		X6502	VSX0472	CRYSTAL OSCILLATOR	1	
D6509	MA141K	DIODE	1		X7001	VSX0458	CRYSTAL OSCILLATOR	1	
D6510	MA3068-H	DIODE	1						
D6511	MA132K	DIODE	1				MISCELLANEOUS		
D7001	MA334B	DIODE	1			VGQ2418	LCD HOLDER	1	
D7003,04	MA141WK	DIODE	2						
IC6501	UPD17401G522	IC	1						
IC6503	TC4S71F	IC	1						
IC7001	UPD65044G068	IC	1			VEPOQ78A	POWER SW C.B.A.	(NLA)	
IC7002	LC3664AMLTRM	IC	1						
IC7003	TC7S00F	IC	1						
IC7004	LM311DB	IC	1						
IC7006	LC3664AMLTRM	IC	1		D1401	BR1102W	DIODE	1	
L6501	VLQ0319K390	COIL 39UH	1				RESISTORS		
L7001	VLQ0163J330	COIL 33UH	1		R1401	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
L7002	VLQ0319F150	COIL 15UH	1						
P6501	VJS3024C032	CONNECTOR (FEMALE)	1		SW1401	ESD165226	SWITCH	1	
P6502	VJS3149C008	CONNECTOR	1		SW1402	EVQQHP01W	SWITCH	1	
							MISCELLANEOUS		
QR6502	UN521E	TRANSISTOR-RESISTOR	1			VWJ0546	FLEXIBLE CABLE (5PIN)	1	
QR7001	UN5210	TRANSISTOR	1						
		RESISTORS							
R6501-04	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4			VEPO6719A	SUB OPERATION C.B.A.	(NLA)	
R6505-08	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4						
R6509,10	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2						
R6511	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		D6901-03	MA141WA	DIODE	3	
R6513	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R6515	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R6516	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1						
R6517,18	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		P6901	VJS2848D009	CONNECTOR (FEMALE)	1	
R6519	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1						
R6521,22	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2						
R6527	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1						
R6528	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1				RESISTORS		
R6529-36	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	8		R6901	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7001	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1						
R7002	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1						
R7003	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1						
R7004	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1		SW6901-05	EVQQHP01W	SWITCH	5	
R7005	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1		SW6906,07	VSSO298	SWITCH	2	
R7006	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		SW6908	EVQQHP01W	SWITCH	1	
R7007-09	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	3						
R7010	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1						
R7011	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1				MISCELLANEOUS		
R7012	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1			VWJ0545	FLEXIBLE CABLE (9PIN)	1	(P6901~P6004)
R7013	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1						
R7014	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1						
R7015	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1						
R7016	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1						
R7017,18	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2						
						VEPO4324A	MIC C.B.A.	(NLA)	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		CAPACITORS		
C4701,02	ECQB1H103JH	P.CAPACITOR 50V 0.01U	2	
C4703	ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4704	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4705,06	ECQB1H103JH	P.CAPACITOR 50V 0.01U	2	
C4707	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4708	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4709	ECEA1HKGR22	E.CAPACITOR 50V	1	
C4710	ECEA1HKGR010	E.CAPACITOR 50V 1U	1	
C4715	ECEA1HKGR010	E.CAPACITOR 50V 1U	1	
C4727	ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4729	ECEA1HKGR010	E.CAPACITOR 50V 1U	1	
IC4701	UPC4572G2	IC	1	
IC4702	RC2100M	IC	1	
J4701	VJJ0306	MIC JACK	1	
P4701	VJP2262	CONNECTOR (MALE)	1	
P4702	VJP2275	CONNECTOR	1	
		RESISTORS		
R4701,02	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4703	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4704	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4705	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R4706,07	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R4708	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R4709	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4710	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4711	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4712	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4713	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4714	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4717-20	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	4	
R4738,39	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2	
R4749,50	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
SW4701	VSS0126	SWITCH	1	
	VEK5192	HEAD PHONE C.B.A.	(NLA)	
J1801	VJJ0243	HEAD PHONE JACK	1	
P1801	VJP1607T	CONNECTOR (MALE)	1	
	VEPO0Q80A	CHARACTER GENERATOR C.B.A.	(NLA)	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
J1802	VJJ0163	CHARA GENE JACK	1	
P1802	VJP3126D010	CONNECTOR (MALE)	1	
	VEPO2370A	DRIVE C.B.A.	(NLA)	
		CAPACITORS		
C2101	ECST1AC2262	T.CAPACITOR 10V 22U	1	
C2102	ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C2103	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C2104	ECUM1H473KBM	C.CAPACITOR CH 50V 0.47U	1	
C2105	ECUM1H223KBM	C.CAPACITOR CH 50V 0.22U	1	
C2106	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C2108,09	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C2110	ECUM1C104KBM	C.CAPACITOR CH 16V 0.1U	1	
C2111-13	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	3	
C2114	ECST1AY4752	T.CAPACITOR 10V 4.7U	1	
C2115	ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C2116	ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C2117	ECUM1H473KBM	C.CAPACITOR CH 50V 0.47U	1	
C2118	ECUM1H333KBM	C.CAPACITOR CH 50V 0.33U	1	
C2120	ECST1AX1062	T.CAPACITOR 10V 10U	1	
C2122-24	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	3	
C2125	ECUM1C104KBM	C.CAPACITOR CH 16V 0.1U	1	
C2126-28	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	3	
C2129	ECST1AD3362	T.CAPACITOR 10V 33U	1	
IC2101	AN3890FBS	IC	1	
IC2102	UN218CU	IC	1	
IC2103	AN3890FBS	IC	1	
IC2104	TM3702	IC	1	
P2101	VJP2962C024	CONNECTOR (MALE)	1	
P2102	VJS2959B018	CONNECTOR (FEMALE)	1	
P2151	VJS2959B017	CONNECTOR (FEMALE)	1	
Q2111	2SD2216	TRANSISTOR	1	
		RESISTORS		
R2101	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2102	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2106	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2108	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R2109	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2110	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2111	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2113	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2114	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R2115	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2116	ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2117,18	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R2119	ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2120	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R2121	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2123	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2125	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R2162	ERJ3GEYG823	M.RESISTOR CH 1/16W 82K	1	
R2163,64	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	2	

